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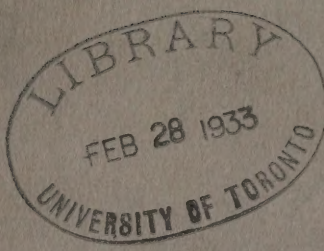
PROCEEDINGS
OHIO STATE EDUCATIONAL CONFERENCE

TWELFTH ANNUAL SESSION

THURSDAY, FRIDAY, AND SATURDAY
APRIL 7, 8, AND 9, 1932



THE OHIO STATE UNIVERSITY
COLUMBUS - - - 1932

DUE to restrictions in the budget no reprints of the sectional programs of the Ohio State Educational Conference can be made. One copy of the *Proceedings of the Twelfth Ohio State Educational Conference* will be sent to each person from whom a request for a whole volume or reprints has been received.

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PROCEEDINGS OF THE TWELFTH OHIO STATE EDUCATIONAL CONFERENCE

THE OHIO STATE UNIVERSITY BULLETIN
VOLUME XXXVII SEPTEMBER 15, 1932 NUMBER 3

Proceedings of

THE OHIO STATE EDUCATIONAL CONFERENCE

TWELFTH ANNUAL
SESSION

Edited by
Josephine H. MacLatchy

THE OHIO STATE UNIVERSITY
COLUMBUS · · · · · · OHIO

THIRTEENTH OHIO STATE EDUCATIONAL CONFERENCE

KEYNOTE: EDUCATION AND THE PRESENT CRISIS

APRIL 6, 7, AND 8, 1933

Greetings

THERE CAN BE NO MORATORIUM ON EDUCATION; in a growingly complex world the need for skills, mental training, social sensitiveness, and civic enthusiasm is most emphatic. The call for the educated person is ringing clear among all peoples, and the molding of the processes of education is incessant.

We strive to give to the youth of today such training as will enable them to train the youth of tomorrow to a finer appreciation of the realities and a more delicate adaptation of the environment to their spiritual and physical aspirations. We still need much enlightenment about "What education is most worth?" the principles upon which it rests, and the ways in which it may be achieved.

The College of Education is steadily going forward in its purpose of improving the educational processes, of promoting sounder thinking about education, and of sending more adequately equipped teachers into the public schools and colleges. It needs the stimulus coming from association with the workers in the field, and it believes that the annual Conferences at the University are mutually beneficial.

We welcome each year the teachers of Ohio who attend the Educational Conference. We present herewith the printed *Proceedings of the Twelfth Ohio State Educational Conference* with the hope that the volume will promote professional interest.

GEORGE W. RIGHTMIRE
President

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GENERAL SESSIONS

Education in Ohio Today

By GEORGE W. RIGHTMIRE[1]

LET US FORGET FOR A MOMENT the subject announced and journey into the past—a trip on the "time machine"—to take a look at the beginnings of education in Ohio and to think for a little while about the early educational policies and the men who advanced them. For twenty years after Ohio became a state there was no legislative act which created or recognized a public-school system, and for thirty-five years there was no "free" school in Ohio outside Cincinnati. A state fund for the support of common schools was first proposed in 1838. Almost forty years passed before supervision for the township and county schools was mentioned, and it required fifty years thereafter to make the township the school unit and supervision a nominal reality. And it was not until 1914, seventy-five years after it was first proposed, that county supervision was finally established.

Despite the many loud and insistent calls therefor, state-supported normal schools did not come into existence until a century after Ohio became a state. It was just fifty years before the state became in earnest about a central state administrative officer called variously a "superintendent," a "commissioner of common schools," or a "director of education." It was almost a half-century before a state teachers' association was born, and the first effective school journal was not launched until that time. Public-school superintendencies by that name, even in the cities, were almost unheard of before 1840, and public high schools were rare before 1850; indeed, township high schools were not authorized until 1853.

There are various statutory landmarks on the public-school domain in the first half-century of Ohio history which we should now notice. We instantly recall the generous language of the Ordinance of 1785; the clear vision and determination announced in the Ordinance of 1787; the obligation to support public schools placed upon the legislature by the Constitution of 1802; the ringing declaration that "the General Assembly shall make such provision by taxation, or otherwise, as, with the income arising from the school trust fund will secure a thorough and efficient system of common schools

[1] Ohio State University.

throughout the state" in the Constitution of 1851; and the affirmation of that fundamental statement, with minor embellishments, in the present Constitution of 1912.

In pursuance of these basic pronouncements let us glance at some of the leading acts of the legislature—those statutes which mark periods in our educational progress. The first general law was passed in 1821 providing for the division of the township into school districts and choosing a committee for each district, which should levy a tax to build a schoolhouse and to supplement the "rates" to be paid by householders for the schooling of the children. This was the dawn of the day of the "district school." The remainder of the funds needed to keep the school going was to come from the share of the district in the proceeds of the rent of Section 16 or other public-school lands.

This looked good on paper, but since it was not mandatory nothing much happened; in 1825 by trading votes in the legislature—support of a canal system in return for support of a tax of one-half a mill for school purposes in each county—a strong law was passed. Its provisions were compulsory; it made the school directors "run" the schools, and until their duties were performed the district could not obtain funds for the schools.

The county tax was the striking feature of this law, and the Act of 1825 fills a worthy place in our perennial volume of school legislation. Nevertheless, for a dozen years thereafter, local pressure obtained many amendments, to the confusion of the school authorities. We were in the backwash of the logrolling which made the Act possible. The Act of 1837 created the office of state superintendent of common schools, and under the recommendations of the first incumbent the notable Act of 1838 was passed. This codified the school law and created a state (equalization) fund of $200,000. There were many stimulating new constructive provisions for public education. For the first time in the history of Ohio a state public-school superintendent had traveled in one summer and autumn over fifteen hundred miles on horseback, had visited three hundred schools, had made innumerable addresses, had learned what the people were thinking and hoping, and then, out of all these experiences, had shaped a magnificent report which had so interested the legislature that it sat for two evening sessions to hear him read and explain it. This was a dramatic occasion and it may truthfully be said that at that time, in the language of President McKinley, the lawmakers "had their ears to the ground."

Nevertheless, educational things slumped terribly in a few years, and the decade 1843 to 1853 registers the "low" in both activity

and general public sentiment and in ignorance of the school law—just the conditions for the agitator. At this time a band of devoted and enthusiastic citizens and school men organized the Ohio Teachers Association, started the *Ohio School Journal*, and put Lorin Andrews as a "common-school missionary" into the field. They so stirred the people in the cause of public education that the epoch-making Act of 1853 was passed—a comprehensive school code of 69 sections which displaced an enormous bulk of confusing legislation.

This law fixed in the educational policy of Ohio a school tax on the grand list of taxable property in the state, to be distributed to the counties in proportion to the number of school children—the principle of equalization, then and for long after hotly contested—but firmly established the principle that the property of the state must provide for the education of the children of the state. It created the office of state commissioner of common schools with considerable power; set up township boards of education; put an end to "rates" assessed against parents for schooling of children, and finally made public schools free; it also provided for school libraries. Strange to say, the proposal to purchase Webster's *Unabridged Dictionary* for each school could not be passed! This code was a revolution in educational lawmaking.

The low state of public opinion regarding the school which had been prevalent five years before was portrayed by M. F. Cowdery, a leading public-school man, when he addressed the State Teachers Association in 1852:

> Those who are acquainted with the recent history of our State are aware that, five years since, the cities and larger towns of Ohio, with two or three exceptions, perhaps, were entirely destitute of a system of classified Public Schools [of proper buildings, of proper discipline, and systematic courses of instruction]. . . . Many a good citizen had felt the conviction that the Common School System could never prove a suitable and reliable agency for educating the children of the State. . . . [The duty of providing good school opportunities had been unfaithfully met or the system had elements of inherent weakness. . . . There were no adequate results. . . . Private tutors, private schools, sprang up everywhere.][2]

Lorin Andrews, reporting to the Association in 1852, was very enthusiastic about the educational revival then taking place:

> Gratifying evidences of an increased and increasing educational spirit, present themselves in every portion of our great State. During the last five years, many school buildings have been erected in Ohio, which, by

[2] Cowdery, M. F. "Annual Address Delivered Before the Ohio State Teachers Association, December 29, 1852," *Ohio Journal of Education*, II (February, 1853), pp. 33–34.

the amplitude of their structure, the commodiousness of their plan, and the beauty of their finish, would do honor to the wealth and liberality of older states; more than one million of dollars has been raised to endow higher institutions of learning; at least, eight thousand teachers have been assembled in Institutes, and have thus been better prepared to act efficiently as missionaries in the great work of education; the professional teachers of the State, by their untiring efforts, their self-sacrificing spirit, and the bold comprehensiveness of their plans, have not only done themselves lasting honor, but they have set an example worthy of imitation by the teachers of other States; from a condition of great indifference on the subject of education, the great mass of the people have become friends and advocates of free schools, and now more than one-half of the five hundred millions of property in the great State of Ohio, by the voluntary votes of its possessors, is taxed to support schools, which afford the advantages of intellectual and moral culture, as free as the air of heaven to the children of the State; and in addition to these evidences of progress, we now have, what we have not very frequently had—a General Assembly, the members of which seem anxiously to desire to advance the interests of education by prudent and proper legislative action.[3]

The *Journal of Education* in the same year gave credit for the intelligent agitation and the great improvement in school matters to the teachers of Ohio working through the Association:

In no other country, in no other State of our Union, has a body of Teachers attempted what has been undertaken here. Teachers have generally been content to follow the lead of Boards of Education, to go forward in the work of improving themselves, and elevating their schools as fast and as far as the requisitions or the demands of public sentiment required. In the absence of correct views of the importance of providing the means of educating all the youth of the State, and of efficient legislation for the promotion of this object, our Association has undertaken to disseminate as widely as possible, by the aid of the press and the living speaker, such information as will lead to the formation of correct opinions on this whole subject, impress upon the minds of all an abiding conviction of the magnitude of the interests involved, and as soon as possible secure from the Legislature a School System, which in the comprehensiveness of its policy, the liberality of its provisions, and the efficiency of its administration, shall be worthy of the State, and the age in which we live.[4]

This was truly our educational renaissance with Lorin Andrews acting the rôle of the Great Humanist. The accomplishments of 1853 are our base line, a point of departure in the development of a state educational system, and we have been moving steadily forward and upward ever since. The foundation-laying period covered fifty years, but most that has taken place since is amplification, not displacement.

[3] Andrews, Lorin. "Report of the Executive Committee of the State Teachers Association for 1852," *Ohio Journal of Education*, II (February, 1853), p. 60.

[4] Editorial. *Ohio Journal of Education*, II (January, 1853), pp. 1–2.

What shall we say of the educational philosophy that motivated this common-school program? Briefly, it has two aspects, political and social. Over and over we hear it said that in a democracy, where the people are both governors and governed, each must understand the nature of the government and his responsibilities as a citizen and must know that the well-being of the public depends upon the trained intelligence, the righteousness, and the civic appreciation of the individual, and these qualities can be attained only through education; and the state, for its own preservation, must provide the means.

The second aspect of our educational philosophy touches the individual and calls for his complete and well-rounded development. This opportunity must be given by the state to the individual in proportion to his capacity, so that the educational heritage may be conserved, enriched, and passed on to posterity. The state cannot abdicate these functions without abetting its own downfall, and, theoretically, the better the educational program of the state, the more efficient will be its public institutions and the more satisfying will be the lives of its people. There is a limitation here somewhere, which we all admit but which we cannot definitely fix, on the extent to which the state may properly go in its educational efforts, but it is pretty generally conceded that its obligation extends from the primary grades to the graduate school. The events of the first half-century of our history established the first principle and the second half-century, I think, has assured the second.

Before we leave this great formative period, let us memorialize its leading characters by creating an imaginary educational "hall of fame."

First in time, I shall name Nathan Guilford, a Cincinnati bookseller who published an almanac which had a wide distribution over the state. He filled it with wise sayings about education, the common schools, and the public need for a good school system; these bits of educational philosophy were presented as the sayings of "Solomon Thrifty." In the dearth of printed books of the time you may be sure the almanac was most welcome and was read over and over. It may be compared properly with *Poor Richard's Almanack*, both in style and popularity. Guilford was elected to the Ohio legislature in 1825, and was at the front of the movement which resulted in the educational legislation of that year. He did much to develop the system of free common schools at Cincinnati. Guilford's philosophy may be stated in his own words:

> The fund arising from school lands will not be sufficient to educate properly one child in ten. It is unnecessary to dilate upon the importance

and necessity of education in a free state. That the mass of the people should be well informed, and enabled to understand their rights, and the policy of the government under which they live, is universally acknowledged by all enlightened and reflecting men. Public morals and public intelligence ought to be the peculiar care of every republic, and as every man is interested and benefited either directly or indirectly, in the political safety, good morals, good order, intelligence and social happiness of the community, of which he is a member, he ought freely to contribute to their promotion and support. And the Legislature as the public guardian, have an unquestionable right to compel every individual by a tax, to bear his proportionable share of the expense. And if the means are not otherwise provided it becomes the duty of the Legislature of every state to exercise that right and to make such provision, that every child of the republic, whether rich or poor, should have an opportunity of receiving a common decent education.[5]

I shall name second Samuel Lewis, who labored in season and out for better schools, was state superintendent from 1837 to 1840, traveled, spoke, wrote, and planned incessantly for the improvement of the common-school system and the passage of the Act of 1838. His three annual reports are replete with first-hand information and recommendations for the improvement of the common schools. His vision may be seen in his recommendations which were in large part embodied in the Act of 1838 or later. He first brought an educational philosophy and enthusiasm to the people in his own person, and his eloquence was dynamic and long remembered in the rural districts.[6]

I shall name third Samuel Galloway, secretary of state and ex officio superintendent of common schools, for his inspiring annual reports, his activities in the Ohio Teachers Association, and for the great weight of his official influence in that renaissance decade ending in the Code of 1853.

I shall name, also, Lorin Andrews, inspired worker in teachers' institutes and associations, the "common-school missionary" of the State Teachers Association, who followed Lewis' example in carrying the message out to the people, and an organizer of public opinion, powerful in the renaissance period.

Hiram H. Barney, tireless worker in the movement culminating

[5] Guilford, Nathan. *A Letter Addressed to the Chairman of the Board of School Commissioners*, 1822. pp. 4–5.

[6] He advocated school libraries; a state school fund of $200,000; township high schools; town boards of education; evening schools in towns and cities; county superintendents; a school journal to be distributed to school officers gratuitously; encouragement for the formation of teachers' associations; authority for districts to borrow money to erect schoolhouses; the employment of women as teachers; and full reports from teachers and school officers.

in the Common School Code of 1853 and first Commissioner of Common Schools under that Act, who traveled widely over the state and addressed many gatherings on the common-school system, and exercised a significant influence in creating an understanding of the school law and an enthusiasm in the support of the schools, is next in our hall of fame. His reports for 1854, 1855, and 1856 are educational classics; probably no man in Ohio before or since has had so clear a conception of the public-school movement or has expressed so eloquently, and at the same time so minutely, the philosophy upon which the public schools must rest.

A wisely matured and judiciously organized system of public instruction is, under a government like ours, an essential agent of civilization, and especially of that modern republican, democratic civilization which professes to aim at the greatest good of the greatest number; and who also believe that education, thorough, systematic and universal, is almost the only means by which all the rich and varied blessings of our free institutions can be preserved and perpetuated; and that it is only under the guidance of knowledge that man's intellectual and moral powers can be duly developed, wisely applied, and himself prepared for the full enjoyment of this improved civilization.

It is also encouraging and cheering to the heart of every true patriot, every sincere philanthropist, to be able to assure the friends of free schools that it is fast becoming the universal public sentiment of the intelligent, reflecting, philanthropic portion of the people of this State that, to withhold from the children of the State that intellectual and moral training which would give them the full command of every faculty, both of body and mind, which would call into play their powers of observation and reflection, and give them objects of pursuit and habits of conduct favorable to their own happiness, would be to deny them access to a large proportion of the best and noblest influences supplied by Christianity—by science and the arts; that every child has the most undoubted right to demand at the hands of the State the establishment and maintenance of such a system of public schools as would give him a place where his mental and bodily powers, his manners and morals could be trained up to a healthful, vigorous and graceful activity, and the proper foundation be laid to make him a thinking, reasonable being, an enlightened virtuous citizen; that it is the duty, as well as the noblest privilege of the legislature to establish a system of public schools on such a broad and liberal foundation that the same advantages, without being abridged or denied to the children of the rich, may be open at the same time to the children of the poorest and humblest parent.[7]

He understood the law, the people, the schools. He is the premier educational statesman of Ohio.

[7] Ohio. *Third Annual Report of the State Commissioner of Common Schools to the Assembly of Ohio*, 1857. p. 13.

I shall not expect to hear objections if I bring forward for honorable mention in this company A. D. Lord, the originator and promoter of the *Ohio Journal of Education*, an active spirit in the Ohio Teachers Association, and for years a superintendent of schools in the city of Columbus; also, Thomas W. Harvey, because of his energetic and enlightened activity in the cause of common-school education for many years, and his notable service as commissioner in the seventies. His report for 1873 is a delightful statement of educational conditions at that time, of the theories which were circulating through the minds of school men, of the philosophy upon which a free public-school system must rest, and of the studies that should be pursued to give the well-rounded training which the citizen will need.

One other name I know you are supplying; many of you were brought up on his readers; today there are many societies named in his honor. His name is always mentioned with reverence—William H. McGuffey.

As early as 1838 Lewis advocated township high schools, and in 1856 Barney advocated high-school departments; his statistics showed 97 high schools in Ohio that year, practically all in the cities. Two arguments were always advanced for the high schools: one was that the elementary education was insufficient as a preparation for a satisfactory life and for the duties of citizenship; the other was that the high schools were training institutions for teachers, that they exercised a stimulating effect upon the quality of the teaching and the results in the elementary school, and that they gave to the younger pupils something higher to strive for—a strong tonic for the whole system. Exactly the same arguments for public support applied as in the case of the elementary school, and they grew in popularity rapidly; they soon displaced many of the academies, institutes, female seminaries, and normal schools, of which Harvey reported 44 in 1873. The high schools came to be called the people's colleges, and their growth from 1900 to date has been amazing.

Now as the high schools have multiplied, their students in rapidly increasing numbers have sought the higher learning of the colleges. The growth of the colleges in number and enrollments has likewise been phenomenal. We have founded an average of almost four colleges in Ohio in each decade since it became a state, five of them in the ten years just closed.[8] The total, today, is 46 institutions, five

[8] Beginning with Ohio and Miami Universities in the decade 1800 to 1810 we find a long line of them established by decades as follows: in the twenties, two; the thirties, four; the forties, four; the fifties, nine; the sixties, four; the seventies, five; the eighties, three; the nineties, three; from 1900 to 1910, two; from 1910 to 1920, three; and from 1920 to 1930, five.

of them supported by public funds, like the common schools, the others being private or on a religious foundation. If we run a belt thirty-five miles wide from Cincinnati to Cleveland, it will cover most of the colleges in Ohio, leaving out two in the southeast; and if a short pendant be dropped from Toledo it will cover the rest. All are accessible and the college opportunity is brought to the doors of the people. The urge toward learning on all levels is striking; between 1900 and 1930 the population increased about 60 per cent, the elementary-school enrollment increased about 36 per cent, the high-school about 280 per cent, and the colleges and universities about 460 per cent. Today a high-school and college education is a part of the family budget—one of the ordinary expenses of living.

In Ohio today, out of a population of 6,700,000 about one out of five is in the public schools; one out of every six in the schools is in the high school, and there is one college student for every five in the high schools. Practically 60 per cent of those of high-school age in Ohio are actually in the high schools.

In Europe the story is very different; only from 8 to 10 per cent of the youth of high-school age are in the high schools. Secondary education is for a highly selected group, and all others are sent to the technical or vocational schools, or are taken out of school and placed at work. The American idea of universal education, free, carried to the ages of sixteen or eighteen years, is incomprehensible over there. We do not think of everybody here as being extensively educated—we have no illusions about that matter—but we do believe in an equal chance for all, for the utilization of which the individual becomes responsible.

What is the bill of fare presented to the multitudes of students? In the elementary schools prior to 1860, there were only the rudimentary drill subjects, reading, writing, arithmetic, grammar, and spelling, all tools for everyday life. Superintendent Lewis complains of this in 1838 in his report, that,

> One error still prevails to a ruinous extent, namely; the neglect of cultivating and developing the powers of the mind, while everything is attempted to be done by taxing memory with the weight of names and abstractions, allowing no play for thought, and exciting no interest whatever in the child's mind.[9]

But for a pioneer people, reducing a wilderness to partial civilization, wresting a living under elemental conditions from the soil, the forest, and the streams, they were about all that most would think useful.

[9] Lewis, Samuel. "Second Annual Report of the Superintendent of Common Schools, made to the Thirty-seventh General Assembly, December 24, 1838," *Executive Documents*, Part I, 1838. Document 32, p. 8.

From 1860 to 1890 the additions were "content" subjects, such as geography, history, literature, civics, conduct, nature study, adapted to give information and develop a better understanding of one's associates, one's community, and one's country.

Since 1890 considerable additions have been made, called properly "expression" subjects, music, drawing, fine arts, manual arts, vocational subjects, games, and civic activities. None of the other subjects were dropped, but these were added on the theory that the aptitudes or inclinations of the child could there find expression, his nature would be more completely cultivated, and his character more generously trained. These subjects recognize conditions under which we live; they are introduced for the purpose of adapting the school to the life about us. The guiding principle of democracy is that every individual should have the opportunity to go as far in his intellectual and moral development as his capacity permits, and these content and expression subjects present the expanding opportunity.

The high school also started largely with certain drill and content subjects and has added numerous other content and expression subjects for reasons much the same as prevailed in the elementary schools. A similar experience has been taking place in the college, gearing it more harmoniously into the procession of life.

The total picture is, therefore, the elementary school, the high school, the college, and the university, and the ideal sought is a coordinated progress from bottom to top. Especially is this imperative in the publicly supported schools and colleges. Not only does the public provide the means for free education, but it enforces attendance; a subject heading for a grand division of the Ohio school laws long has been "Schools and Attendance Enforced." Democratic government can take no chance with ignorance and even provides books, food, shoes, and clothing, that there may be no excuse for illiteracy. The Ohio legislature in special session recently empowered local school boards to provide these necessities.

Further, the state has become supremely the educational unit. It is insistent that local poverty or indifference should not foster local ignorance, and through the state director of education allocates to communities some millions of dollars each year. More and more does the state become the supporter, the adviser, the supervisor, and the stimulus of public education in the communities. The actual management of the schools is left in the locality, but the state acts through the legislature and the director, and these have become potent influences in the public-school system. This concentration is inevitable as population grows and the means of communication and transportation continues to make marvelous development.

While the state with increasing vigor was sustaining the schools for many years, it continued to fail to train the teachers. Certain cities and private foundations supported teacher-training schools, and many teachers came directly from the colleges, but the state was observing its centenary when the first public normal schools were opened at Ohio and Miami Universities; a few years later a College of Education was started at Ohio State University, and ten years after the first ones, two more normal schools were established at Kent and at Bowling Green. These locations are well chosen, and the training of teachers at state expense is now well established.

It will now be interesting to see how far the enthusiastic educational plans and the vision of the people of Ohio, in the first half-century of its history, have been realized in the social conditions in which we live today. The early governors saw in free education the destruction of ignorance, folly, and vice, the disappearance of jails and almshouses, and a high degree of perfection among the people, and a resulting virtuous, intelligent citizenry.

The prophecy of Barney is comprehensive; he said if we should "educate every child, 'to the top of his faculties,' " we would not only secure the community against the depredations of the ignorant and the criminal, but we would bestow upon it, instead, productive artisans, good citizens, upright jurors and magistrates, enlightened statesmen, scientific discoverers and inventors, and dispensers of a pervading influence in favor of honesty, virtue, and true goodness. Educate every child physically, morally, and intellectually from the age of four to twenty-one, and many of our prisons, penitentiaries, and almshouses would be converted into schools of industry and temples of science.[10]

These plans were too visionary to be completely realized in any kind of society, but especially so in a state which has received and absorbed many thousands of immigrants of many nationalities; in the last twenty-five years it has become clear that we are not yet in the millennium. We have also developed great congested population centers and have created a type of industrial civilization which could not have been foreseen. Our means of communication and transportation are marvels, and, surrounded by these conditions, we have learned that many people, however well educated, are not virtuous, and that it is possible to make education the tool of iniquity. Although the number of such people is discouraging, yet, relatively, they are not many, and if we can take the long look we can see a vast social improvement. Much of our prophecy has presupposed a happy individualism, and in our calculations we have frequently overlooked the

[10] Ohio, *op. cit*, 1857, p. 15.

social influences, both good and bad, developed by the presence of multitudes. In other words, psychology and sociology have by this time given us certain insights into human conduct, and because we expect less of human beings we multiply social agencies many fold. Knowing these forces better, we should have large satisfaction in the moral and social progress which we have been able to make through universal education.

How far have the old prophecies of improved and enlightened citizenship through universal free education been realized? Certainly not completely. Many of us are wholly intrigued by party slogans, and we accept good words as wise deeds. Many of us fail to vote, and many who would bring fine virtues to public office refuse to stand for election. Many educated people become caustic critics of government but deny all responsibility, for which the immense complications of our society and the governmental machinery may be to blame in large part. Because the world never before had to deal with compact masses of educated people, there seems to be a great deal to learn about how the educated person may be expected to act and to respond. He is not quite what we used to think he would be.

When our doubts are thickest, we must remember that formal education is not the only force playing upon the individual and molding his habits, his conduct, and his appreciations; there are also the newspaper, the magazine, the radio, the moving picture; infinite varieties of bad music, and the many species of family life. It has become fashionable to say that the home and the church have abdicated and the school is now responsible for the education of the youth; I can agree that the school has assumed growing responsibilities, but the other agencies, I believe, are still mighty factors.

So, if we find social, civic, moral, industrial, and governmental conditions imperfect or discouraging, let us not charge it all to the educational system; the other half-dozen agencies are powerful stimuli and may be determining factors in shaping life. Up to now we have no certain means of straining out or isolating these influences, these conduct vitamins, and if it were not for the formal education which the state applies, our situation might be infinitely worse. Comparison with any age in the past will give us pride and confidence in the generation of today and buoyant hope for the future.

How have we succeeded in realizing the other branch of our argument for universal free education, namely, that the individual should be enabled to cultivate his capacities to the limit? Here we should be optimistic; many industrious and brilliant young men and women have been far advanced in their chosen fields of study and

activity, and both themselves and society have been the beneficiaries of their training.

We must get over the obsession, however, that the business of the schools is to train leaders only; of course, train as many of them as can be found, but a considerable part of the business of a public educational institution is to train followers, people who can understand the leaders and intelligently support them. Most of our product will be followers, but how necessary the army is to the general! How necessary it is in a democracy that we have a certain well-developed but yet common culture! This is the contribution of the school.

As we read the Ohio educational record for the last century we grow enthusiastic in the cause of universal education, and we recognize it as the enduring and indispensable agency for cultural achievement and social stability and advancement. There is nowhere any attack on education per se; I know of no one who wants to abolish the schools. The contest we may face just ahead will be about quantity, quality, and the extent of support possible. Much will certainly be said about frills and waste and the complications in the educational machinery. But surely we are accustomed to that; for one hundred years we have been searching them out and substituting and improving, and expect to keep right on doing so. We are convinced that the curriculum must include drill, content, and expression subjects. We have constantly been experimenting, and when we shall cease the public school will be a dead issue. We are open-minded and serious; it is well to remember that solicitous regard for economy and for a proper educational program is not confined to a particular group of people who may be making the loudest protest.

Nevertheless, certain improvements in public education may now well be seriously considered by school people everywhere. As the tempo of life accelerates, we are haunted with the thought that our school system and procedures may not be adequate; we see twelve years of the child's life devoted to reaching graduation from the high school; it is done differently in the better schools of England and the Continent, and we believe that the process may be speeded here; we note that some fields of knowledge which yield the greatest benefits only when integrated come to the child segregated; we have not yet mastered the integration of subject-matter, nor are we sufficiently impressed with the great need for it; many teachers in public schools and public colleges have not had the subject-matter training nor, consequently, the professional training or experience that will enable them to fabricate and present integrated subject-matter to students. Here is a grand opportunity for a noble experiment in teacher training by the public institutions, and in pupil training in the

public schools. I believe it is possible to lop one year, for many children two years, from the time now prescribed for the public-school course and have better trained children in doing so; but a different tying-together of many branches of knowledge is required. We need to think in terms of integration, not insulation.

The colleges and universities have a similar problem of the most serious nature, and we are inclined to follow tradition rather than to focus our scholastic intelligence upon this need. Especially is this true in the social sciences, where the realities of life call for an interweaving which would mutually strengthen and promote the usefulness of these fields of learning.

The school is training for life; it is the social institution of our times. It must appraise life at its best and prepare therefor. All its activities are rated according to their social worth; every student, even though training for a profession or a technique, must learn about society and its needs apart from his particular learning. Citizenship, social conduct and values, self-reliance and self-motivation in the social order, these must come to every student if our education is to be adequate. We believe in education, and we look to the schools to show the way.

Meanwhile, we cannot stop while we experiment; education is a going concern or nothing; we dare not stop or even slow down for financial stringency or economic hardship. There can be no moratorium on education. Disheartening material conditions may affect our total program or our preferred procedures, but in times like these the educative process must be stimulated and exhilarated. In the terrible suffering and abject poverty left by the Napoleonic Wars, Prussia in 1806 was prostrate; this moment the great Stein seized to develop an educational enthusiasm and to promote a school program that made the Prussian school system the envy of the world for over a century and gave to the state a remarkable political and industrial career. For twenty years Great Britain has been trying a system of publicly supported elementary schools, and, since the Franco-Prussian War, popular education on the elementary level has had a great development in France, despite the hardships through which these countries have passed. We think of Ohio as among the leading states of the country in industry, in culture, in social status, in population elements—in short, in civilization. We know its educational and social philosophy and achievements down through the years; whatever excellence the state has is due to this spirit, which we are called upon to perpetuate. We must not fail; we dare not falter. The spirit and devotion of Guilford, Lewis, Galloway, Andrews, Barney, Lord, Harvey, and McGuffey are a priceless heritage!

Education for Public Service

By RUTH BRYAN OWEN[11]

Before discussing some of the points in which the public servant and the educator share the responsibilities of education, I wish first of all, to unburden my heart of a personal message. The task of the legislator has never been accurately understood, nor have his problems been given a sympathetic understanding. For some time before I was elected to Congress, I was a little uneasy about the tone that the press took in discussing congressmen with the public. The following story is typical of those you often see in the press. A little boy said to his father, "Father, what is the congressional prayer?" His father replied, "That is the prayer the chaplain delivers every morning in Congress." The little boy then asked, "Does the chaplain pray for the congressmen?" His father shook his head, "The chaplain looks at the congressmen, and then prays for the United States."

Nor does the Senate escape entirely. Not long ago a little item was printed in the paper. A Congressman was wakened during the night by his wife, who said, "Wake up, wake up, there are burglars in the house." He came to sleepily, "He must be in the Senate, my dear; there are none in the House."

Now, when all of our country is uneasy and anxious, a great deal of scrutiny is bent on the legislator and his work. A few years ago when we were all feeling rich, I never heard anyone thank the government for it. But today when times are difficult, I hear people say, "Well, what's the matter with the government anyhow? What are they doing there at Washington to put things right?" Because of this feeling and because new forms of government are being advocated, it may be helpful to look understandingly at the problem of the legislator.

When I went to Washington and began my work, I met, shortly after my arrival, a woman who lives a life of complete leisure; she asked me what time the work of the House began each day. When I said that the session began at twelve o'clock noon, she said, "Isn't that lucky? Then you have the mornings to sleep." I found myself wishing that I could convey to her the problem of the mail alone, that unending wave of mail that comes into the office of a legislator. My mail now averages over 150 letters a day. Sometimes the newspapers will publish, "Write your congressman." And they write! Sometimes a worse thing happens; the radio announcer says, "Write your congressman"; then you discover the power of the radio!

[11] Member of the House of Representatives from the Fourth District of Florida.

It is not those great influxes of mail that come suddenly on demand that take so much time, however, but it is the variety of subject-matter. If they all asked the same thing, you could answer quite easily, but in 150 letters there are usually 150 different questions.

One has not, however, even the morning hours for that unending stream of mail. All of the committee hearings are slated for the morning hours. Every bill introduced in the House goes to the committee that is concerned with the subject, and that committee has to decide on the bill before Congress sees it.

If you have sixty bills before the House, you have to have sixty hearings. For a hearing, you must have your witnesses and your testimony all ready, and you must prove your case as if you had a case in court. At the present time my docket book is a formidable thing, since I have sixty bills before this Congress.

At least one day a week my own committee on foreign affairs meets, and a whole morning is taken up hearing the questions that come to us, and sometimes it is necessary to give three mornings in the week to the committee hearings. In fact, some mornings I am reminded of the hero in a story of whom it was said: "He came out of the house, jumped on his horse, and rode off in all directions."

Matters of the gravest importance often hang on the decision of one of those committees. In the last session, a bill, which meant a flood control project of $9,000,000 for my district, was to be decided in a committee. Not only did that great project represent the protection of millions of dollars' worth of land; it meant human life.

I was told when the time came to plan the hearing I might have one hour to present this question to the committee. One hour! With a $9,000,000 flood project hanging in the balance! And I knew that every second of that hour had to count.

So I planned the hearing this way: the first fifteen minutes was to be used by an engineer to explain the engineering features of the project to the Senate committee; the next fifteen minutes was to be used by a banker from Florida to explain to the committee the money Florida has not got; the next fifteen minutes was to be my own to present the claim of the east side of Lake Okeechobee and its people; and the last fifteen minutes, my colleague from the Tampa district was to present the claim of the west shore of the lake.

When the day came for the hearing and we entered the committee room, there were, I think, a dozen Senators at the table. I remember how splendidly the engineer explained the project in the first fifteen minutes. He showed clearly how we wanted to construct a waterway across from the Atlantic to the Lake and to deepen the

Lake around the south shore until it really made a channel for boats; then from the west shore over to the Caloosahatchee River another waterway was to be constructed; and all around the south shore of that lake about fifty miles of dikes were to be made from the earth which had been dug out.

The next fifteen minutes was given to the banker, who explained concisely and clearly the financial situation of the state. Then came my fifteen minutes, and I said to the Senate committee, "I am only going to ask you to see two pictures: one, the town of Belleglade after the flood of 1928; the other, that same town a year later." After the flood of 1928, we made a visit to Belleglade and we had to drive for twenty miles with the water so high that we could only find our way by keeping an even distance from the telegraph poles. When we came to the town, there was a camp of soldiers, for the area was under martial law. Beyond the camp we could see the wreckage. Every house destroyed! Some of them broken up like match wood!

A year later, however, I saw something that touched my own emotions as the storm had not done. When I went back to that spot, there was that little town rebuilt. Between the stores and the street, they had put a new cement curbing, and along the curb they had planted rows of brave little palm trees with hibiscus bushes blooming between them. Where the main street turns there was a traffic island, and it was all planted with flowers. They had a new town hall. Although it was only covered with canvas, it was a town hall, "Victory Hall." I had seen the power of the wind and the waves, but a year later, I saw something that was stronger than the storm. I saw the spirit of pioneer America, that faith in the future and that love of home that brings people back in the very face of disaster to build again.

When we were leaving the committee rooms to let the committee go into executive session, Senator Ransdell of Louisiana said, "Well, for my part, I wish we could give the state that project without charging them for it at all." This project had passed the House with the usual provision that half the cost should be borne by the Federal Government and half by the state. On account of the financial condition of my state, we had asked them to reduce Florida's share from $4,500,000 to $3,000,000 and to take bonds instead of cash. The final decision of the committee was, "We cannot lawfully take bonds instead of cash but we will cut Florida's contribution from $4,500,000 to $2,000,000 so that the state can carry out the project.

We had another occasion last year when the prosperity of one of the towns in my district was threatened. A group came over from Fort Pierce, Florida, and asked me to help get $20,000 worth

of dredging done. The town, having spent $2,000,000 building a harbor, had used up its funds. When the little channel into the harbor had silted and the whole harbor was blocked, they came up to Washington to get Federal aid.

I went around to the committees trying to get that dredging done, but all of the committees said, "That is a private harbor; it is not a government harbor. We are not authorized to help you." I answered, "I know you are not, but I have got to get that channel dredged because a whole town is dependent on that harbor."

I hunted for weeks for that $20,000. You cannot imagine how hard it is to find $20,000 even in a place like Washington, which is full of appropriations. Finally, I saw a possibility. If that little dredging item could be put on the end of the second deficiency bill, nobody would notice it, and the item would go through with the bill. When I was going into the committee with my forlorn little project, I met Senator Bingham at the door, and I asked him to say something when I had finished presenting my project. I thought if somebody said something quickly, it would be so much better than letting the members stop and think.

So I presented the appeal for the dredging. The government dredges were within a few miles of Fort Pierce; hence, it would mean little to them to give the help. When I finished, Senator Bingham did say something which at first did not seem to help. "I think the congressman has made a very peculiar request," but added, "The peculiar feature is that although her people have spent $2,000,000 to make a harbor they have asked for no more help than just that little item. That is the peculiar thing." That statement turned the tide. They put my little item on the second deficiency bill and nobody noticed it when that great bill was passed by the House.

I wish I could review some of those bills that do not involve a town's prosperity, but are just one individual's claim, the hours that go to getting together the material for the hearing, and the anxiety until the committee decides favorably.

Sometimes there are problems that are not legislation at all. Once last year, quite late at night, there came a knock at the door of the office. When I opened the door, there stood a boy in coast-guard uniform, who said, "I have come to give myself up. I am a deserter."

A deserter can give himself up to any official, but I did not know what to do with a deserter when he gave himself up. There he stood, looking miserable and young. "Why have you deserted?" I asked. "I was homesick. I live in Florida, and they sent me to New York. I was so homesick in New York I did not know what to do.

One day I left the boat and, because I stayed too long, I was afraid to go back."

Although I knew it would be a prison sentence, I said to him, "If we could just wash this all out and start again, what would you like to do?" "I would like," he said, "to stay in the service if I could get home for a while. I have had my lesson."

I could not think of him as a deserter at all. He was just one of the boys out of the district that had to have something done for him quickly; so I told him to wait.

The next morning I called up the head of the Coast Guard. "Admiral Billard, one of my Florida boys is in trouble." He replied quickly, "Has one of your boys deserted from one of my boats?" I did not know how he had guessed what it was, but I said, "Yes, that is what has happened, but he is a good boy. He will never give anybody any trouble the rest of his life. I will guarantee you that. I know good boys when I see them, and he is a good boy." When the Admiral said, "I think you are troubled with a soft heart this morning," I returned, "How is your heart?" When he told me to send the boy to him personally, I was glad because I think it is much harder to send someone to prison if you are looking at him.

So I sent the boy to the Admiral. After a while the phone rang and Admiral Billard said, "You know it is a curious thing but I seem to be having the same trouble with my heart today that you are having with yours." "What did you do with the boy?" I broke in. "Well, he had to have discipline; so I have had to compel him to forfeit two weeks' pay. However, I have stopped a boat that was ordered to Florida, and he is going south on it."

With the boat waiting for him, the boy stopped long enough to come and put his head in the door of the office and say, "Thank you."

Sometimes when I am looking at the outgoing mail I find that the letters do not look like paper at all, but more like people. One letter will bring news of ten dollars more a month on a pension. Sometimes it is an ex-service man's compensation adjustment.

Those compensation cases take very long sometimes. It may be this sort of problem. A man at the end of the war may have been disabled, but he has so much character and courage that he carries his own problem along. If he is ill, he calls a doctor and pays him. If he has to go to the hospital, he pays the bills. He does not come back to the government. He finds, after ten years or so have passed, that it is a losing game, and he comes to me for help.

When I inquire about compensation, I am told, "This is not service-connected. There is no record of this man for ten years. He has been perfectly well." The Veterans Bureau having no record,

I have to get it. This means finding the doctors. Sometimes they have moved away; sometimes they have died; and I have to get that record all put together without a flaw in it before it will be accepted. Finally, after weeks and months, there is the letter that says, "It is finished now. He has his compensation."

I remember once last year I had taken a memorandum to the Secretary of State about a problem that involved the fishermen of Key West and the neighboring fishermen in Cuba. When I was leaving, because I was afraid that that little memorandum might get into a pigeonhole by mistake, I said to him, "Mr. Secretary, that may look to you like a piece of paper. As a matter of fact, it is not at all. It is my fishermen. You would not put them into a pigeonhole, would you?" It was their prosperity that was involved.

You know I wish sometimes that that side of the work of Congress was visible. Of course it is natural that the headlines should carry the sensational story. When in the Senate one Senator refers to one group as "sons of wild jackasses," that is news! But the long hours of faithful effort I have never seen mentioned in the press at all.

If the real sincerity and effort behind service at Washington were evident to the whole public, citizens would not only feel more comfortable about their own representation, but they would be prouder to be citizens of our Republic. I wish they saw it more clearly.

It has always seemed to me that here in our country we are overlooking one of the greatest forces for developing our government, the force of education. When a school gives a diploma that marks the end of the school life, I have always felt there should be a gesture from the government. "Here is the end of your responsibility in school, but there is a new responsibility waiting for you. You are now going to be a citizen in a Republic, and all of the fine training you have had should be focused upon the problems of your community, your state, and your nation."

So I have had the American Creed, in which William Tyler Page finely sets forth the attitude of mind of the patriot, engraved on parchment, with a picture of the Capitol in the corner, a seal with red, white, and blue ribbon under it, and the message, "Presented by your Representative in Congress in recognition of your graduation and to welcome you into participation in the affairs of Government." That mark of recognition I send to every graduate of a college, high school, or university in my district.

Although I have told some of the details of my work with these young people to many people in this state, I am going to risk repetition and tell you something of my plans for bringing to the future

citizens of Florida a sense of the beauty and the dignity of our form of government and a sense of their responsibility as a part of that government.

When I first planned to bring the best young citizens to Washington for a training in political service, I realized that there might be a margin of error in the plan. I knew it was possible to work out plans that were good in theory but would not work in practice. Hence, when I made my plan to ask the high schools of my district to hold a student election every year in order to choose the best young citizens out of their high schools, three boys and three girls, from which selection each county school board should designate a boy and a girl to be sent to Washington, so that I might give them a little course in government and a glimpse of the structure of the Republic, I was conscious there might be something about it that would not work. But it is working each year more and more, and the students are showing as much wisdom about the choice of their best citizens as anyone could expect.

The first year, when the group came up to Washington, in more than twenty towns the schools were closed so that all of the children could see the best citizens start for Washington. In one town, the fire engines were all down at the station to give the boy a send-off. In lots of places there were bands. It is as much an honor now to be a best citizen in Florida as it is to be the head of the football team. The best citizen is a great man in the community.

The authorities at Washington were very ready to co-operate. The doors there opened almost before I knocked on them. I did not expect the United States Army Band as my escort the first time, but we had it that year and have had it every year since. There has not been an official of the government who has not been ready to do his part to bring to that group of young leaders the inspiration that lies at the heart of everything at the nation's Capitol. There is no end to the material at Washington that gives a sense of the great sweep of history, a sense of the balance of the departments of government, a sense of self-government, a sense of adventure, all of which serve as challenges to the idealism of youth.

I would rather have students count the votes in some of the big cities than the men who count them. You know if you say to a group of students, "The safety of the government depends on your integrity," you will have no selfishness entering into the thing, for they are idealists. They have two qualities, idealism and energy, valuable qualities for any government to have.

Along with those qualities which I think youth has always had, the youth of today has something that no generation before has ever

possessed. They have a wider and truer perspective. I realized that new perspective this summer when I flew across the Alps with my younger daughter; after we had crossed the very height of the snow-capped mountains, I said, "Wasn't that an amazing experience?" Surprised, she asked, "How do you mean, amazing? Why shouldn't we fly?" Then I realized that she is so young she cannot remember when we did not fly. Then she said, "How soon do you think I can be a commercial pilot?" To this eleven-year-old I answered, "You will have to be much bigger than you are now before you can be a commercial pilot." She said, "I don't think it's size you need for that sort of thing. It's skill."

Of course, she is quite right. She makes herself little airplanes out of tissue paper and pieces of wood. We talk about the dangers of flying, but by the time these children have made airplane models a few more years, we will all have wings. They understand flying. It is not mysterious to them. It is just the way people get about.

See how they understand the radio! If the radio breaks, it is not the father of the family who mends it, it is the smallest boy in the house who takes care of it. I am astonished to see small boys manufacturing radios and tuning in on places. It is amazing how in the last few years the whole idea of time and space has changed.

When I was in school there was something that separated us from other countries, the ocean. Now, it is something you hop across. The space across our continent, which cost our forefathers weary months of travel in the days of the covered wagon, is crossed in one day by airplanes.

The children of today can listen to the statesmen of other lands explaining their problems over the radio. They are not visualizing strangers; they are hearing neighbors. If at the same time that they see this world as a neighborhood they can keep the old idea that you are not a good neighbor unless you bear your share of the responsibility, there is no way to limit the possible accomplishments of this young generation.

It has not been easy to follow this swift passage of time, for these last years have been too crowded with problems. I was astonished when in talking to a high-school pupil about something that happened the first year of the war she said, "That was a long time ago, wasn't it?" I realized, then, that to the high-school student of today the beginning of the war was a lifetime ago, yet to the older generation the time has gone by quickly.

I remember well the day the war ended looking down at the crowds from a balcony in Port Said, Egypt. I had my five-year-old

boy with me, and I wondered how I could make him remember that day, how I could make a five-year-old child remember the day the war ended. I gave him a big gong, saying, "You can beat it all day as loud as you wish, and then you will remember that war ended today." "Are all of the Germans dead, mother?" he asked. "No, thank God," I said. "This is the day we have stopped fighting."

Last summer, we had been traveling by caravan, the children and I, and we stopped at the outskirts of the city of Berlin to do our marketing. Although my German is not good enough to permit me to discuss the debt moratorium with the officials, it is sufficient to do my marketing.

While I was buying the groceries, the German shopwoman looked out of the window at the caravan. After a while, her curiosity got the better of her. She asked, "Have you your family in the caravan?" After being told that the children were with me, she continued, "And the father, is he with you, too?" "No," I replied, "we have lost the father of our family." "Was it the war?" she asked, and I said, "Yes, it was the war." I have never seen greater sympathy than was expressed in the face of that Prussian woman. She went over to the little show case and took out a sack of candy and, handing it to my little girl, spoke of the sorrow the war caused us all. Her husband had been fighting for three years, but he returned safely. She concluded, "Oh, if they would let the people of the world decide it, we would never have war, would we?" I was glad that my boy heard that. I am sure he will never forget it.

When we are directing the attention of youth to the problems of government, we can show them that there is a wider responsibility than the limits of our own land and that they must help solve the problems of the world.

If in the community somebody steals a watch, you have a policeman to arrest him, a court to try him, and a judge to sentence him; the whole community stands behind that action. But, if today a great nation offends against the liberty of a small nation, we have no policeman, no court, no judge to deal with that criminal. There is no reason why the whole world should be turned out to stop one criminal, any more than that the whole community should be called out to arrest a burglar.

We not only permit people to arbitrate a quarrel, but we compel them to do it. You cannot fight out your quarrel with your neighbor. The policeman will stop you. If you insist on the quarrel, the policeman will take you to jail. If we can do that in our particular community, it does not seem too much to hope that we may do the same thing to keep international order.

I am glad that we can turn to these clear-eyed youths of ours and, instead of criticism, can put into their strong young hands the torch of our faith and of our enthusiasm, that we can show them the great problems that are to be solved in the world and can suggest to them some of the ways to help solve them, and then that we can say to them, "We have confidence that you can do what we have failed to do, and we will stand behind you while you do it."

Building a social conscience is almost like building our Republic; it is almost like building the cathedrals in the Middle Ages. A great foundation was laid, but, as the walls rose, the years passed, and those who began the cathedral were not there when it was finished. It was their children's children who saw the towers massed in grandeur against the sky.

Our forefathers laid the great foundations of our government, and through the years the patriots have been raising the walls. It will not be, however, until every citizen sees a vision of his own responsibility and bears it that we will have completed the structure of our Republic.

So I am glad to wish you success in the great responsibility that we, as public servants, and you, as teachers, share jointly—the responsibility of saying to this young generation of ours, "Godspeed in your task of helping complete in your service this vision of the Republic that was begun for us in sacrifice years ago."

Schools as Agencies for Social Training

By CHARLES H. JUDD[12]

In the Huntington Library in California there is a copy of a Massachusetts code which was adopted and printed in 1648. The title of this code is "Book of the General Lawes and Libertyes concerning the inhabitants of the Massachusetts collected out of the Records of the General Court for the severeal years wherein they were made and established." So far as is known the copy in the Huntington Library is the only existing copy of this code. It contains one section which may properly be referred to as the original charter of the American public school. This charter is so significant that I venture to quote it. It is as follows:

Forasmuch as the good education of children is of singular behoof and benefit to any Common-wealth; and whereas many parents and masters are

[12] University of Chicago.

too indulgent and negligent of their duty in that kinde. It is therefore ordered that the Select men of everie town, in the severall precincts and quarters where they dwell, shall have a vigilant eye over their brethren and neighbours, to see first that none of them shall suffer so much barbarism in any of their families as not to indeavour to teach by themselves or others, their children and apprentices so much learning as may inable them perfectly to read the english tongue, and knowledge of the Capital lawes; upon penaltie of twentie shillings for each neglect therein. Also that all masters of families doe once a week (at the least) catechize their children and servants in the grounds and principles of Religion, and if any be unable to doe so much: that then at the least they procure such children or apprentices to learn some short orthodox catechism without book, that they may be able to answer unto the questions that shall be propounded to them out of such catechism by their parents or masters or any of the Select men when they shall call them to a tryall of what they have learned in this kinde. And further that all parents and masters do breed and bring up their children and apprentices in some honest lawful calling, labour or imployment, either in husbandry, or some other trade profitable for themselves, and the Common-wealth if they will not or can not train them up in learning to fit them for higher imployments. And if any of the Select men after admonition by them given to such masters of families shal finde them still negligent of their dutie in the particulars aforementioned, whereby children and servants become rude, stubborn and unruly; the said Select men with the help of two Magistrates, or the next County court for that Shire, shall take such children or apprentices from them and place them with some masters for years (boyes till they come to twenty-one, and girls eighteen years of age compleat) which will more strictly look into and force them to submit unto government according to the rules of this order, if by fair means and former instructions they will not be drawn unto it.[13]

There are several features of this enactment which are of great significance, but we must pass over most of them dwelling at length on only two. The framers of the Massachusetts code were clear in their statement that the fundamental reason the state must require children to be educated is the welfare of the commonwealth itself. The individual is recognized as profiting by education, but that is not the reason the state interests itself in compelling parents and masters to provide training. The state cannot permit a lapse into barbarism. It cannot tolerate neglect of children because these children must know the "Capital Lawes" of the state.

The second feature of the code which concerns us here is that civil authorities, the "select men" of the town, are made responsible for the supervision of the education of children. Education is so

[13] Jernegan, Marcus W. *Laboring and Dependent Classes in Colonial America, 1607–1783.* Chicago: University of Chicago Press, 1931. pp. 91–92.

essential to community welfare that the community must assume responsibility for its administration.

In the years that have passed since Massachusetts adopted the code of 1648 there has been a steady evolution of American community life. Schools have been organized to relieve parents and masters of the direct responsibility for educating their children and wards. The selectmen have delegated the supervision of education to special school authorities—lay and professional—and educational requirements have been readjusted and vastly extended. The present-day situation is somewhat confused because it is complicated, and it behooves us to recall the principles clearly enunciated in the Massachusetts code, that no commonwealth which does not recognize the responsibility of giving to its children a proper training in the ways of civilized life can insure itself against a relapse into barbarism.

I dare say that everyone who thinks of the matter will readily recognize that among the important contributions of civilization to present-day life are the arts of writing and reading. The difficulty with much of the teaching of writing and reading is that it becomes so engrossed in the sheer complexity of the task of giving instruction in these arts that it loses sight of the fact that civilization is involved. Children and teachers have often treated writing and reading as disagreeable tasks which must be performed by individuals, rather than as gifts of civilization. The very terminology of the schools tends to obscure the true purpose of education. Reading is spoken of as a subject as though it were something detached from other subjects, and as though it were an intellectual performance cultivated for its own sake. Reading and writing are in reality civilized ways of dealing with the world. They are contributions to the individual's welfare, but more than that they are the devices which civilization has evolved for making the individual part of a social group.

It is my belief that teachers should be given a new view of their functions. Our teacher-training institutions have given a microscopic view of the teacher's duties. They have taught teachers-in-training penmanship and reading and arithmetic and geography as detached items. They have omitted courses in the nature and needs of society. It would be a wholesome change in the teacher-training program of the United States if a general course in the organization of society could be substituted for some of the rule-of-thumb courses which now fill the teacher-training program.

What I am trying to say can, I think, be illustrated by reference to a phase of school work which is at the present time somewhat

under a cloud. It has come to be quite the fashion to laud individual instruction and to speak of the recitation as a relic of earlier ages. In institutions of higher education, bright pupils are excused from class-attendance and other routine requirements. The old-fashioned virtues of punctuality and of regularity have come to be thought of and spoken of as outworn devices. All this reaches its culmination in the concept that the school is a child-centered institution and that the only training which is interesting or productive is the training which comes through work on some project which the individual happens at the time to be interested in taking up.

A corrective for pure individualism is to be found in a study of civilization. With the development of modern civilization has come the factor of punctuality. Primitive people are not punctual. A friend of mine who has been a student of the American Indians tells of his experiences on a reservation in Dakota. In the pursuit of his studies he found it desirable to travel to a distant point, and so he employed an Indian to come for him with horses. The Indian did not arrive at the time appointed or even on the next day. Finally, some days later, the Indian came and was utterly unable to understand why the anthropologist complained. Time was not a factor in the life of the Indian.

Modern civilization is exacting in its demands on the individual because the only possible way in which community life of the higher type can be conducted is through regulated co-operation. When children enter upon industrial or professional careers, they will find that success depends on conformity to certain essential routines. The recitation may be wasteful at times, and the demands of the school procedure may seem arbitrary, but nothing that the school does is more closely related to community life than its enforced routines. The idea that children are alienated by rules and regulations is refuted conclusively by their enthusiasm for sports, which, in the more mature forms, are restricted by rules far more than are any regular school exercises.

I come back to the statement that our teacher-training institutions ought to let nothing stand in the way of the cultivation of a vivid realization, on the part of prospective teachers, of the meaning and importance of civilization.

It is said that the book which more than any other single force precipitated the French Revolution was Rousseau's *Social Contract*. That book has been influential because it gave men a new interpretation of society; it made clear the fundamental idea that men gain from civilization by recognizing the rights of others, thus gaining

rights for themselves. The idea of the social contract is an idea which somehow must be inculcated into the experience of children in the schools. It may be that recitations are sometimes so badly conducted that they should be changed in character, but I have difficulty in understanding how anyone who believes in parliamentary law or in the wisdom of having people stand in line in order to reach the ticket office would be willing to abandon the recitation.

Let me enumerate some of the topics which should be included in the teacher-training course which I am advocating: the origin and nature of criminal law; the origin and purpose of taxes, of insurance, of weights and measures; the origin of money and of coins; the effects of concentration of population in urban areas; the development of transportation and of communication; the contributions of mechanical inventions to civilization; the history of the sciences and of medicine; the principles which should guide banking and investment. Perhaps some will object that this list of topics transgresses all the rules of academic procedure. The answer to this objection is that under the accepted rules of present-day academic procedure the teachers of this country are going into schools with no adequate conception of the nature of society and are therefore performing their duties without proper recognition of the primary function of the school, which is to transmit civilization and prevent a return to barbarism.

I feel entirely safe in advocating the introduction of this new body of material into the teacher-training program as a course in social institutions. I am less certain how to deal with the schools and their general curriculum. The tendency in American education has been to add a new course to the school program whenever a worthy line of instruction is found to be absent. There are many advocates, for example, of courses in thrift, courses in safety, courses in the making of family budgets, courses in occupations, and so on. The reason for dividing all education into courses is entirely understandable from a study of the psychology of learning. The concentration of attention on a single line of thinking is conducive to coherent understanding and mastery.

An appreciation of civilization is, however, neither a single topic nor a limited group of topics. Civilization is in reality expressing itself in every subject. There is not a line of printed material that does not exhibit in its mechanical composition as well as in its content the meaning of civilization. There is not a lesson in geography or science or mathematics that does not bring to the pupil an aspect of civilization. The appreciation of civilization is a kind of synthetic attitude

which cannot be derived from a single course. Such an appreciation must come from an understanding of the meaning of all courses.

The difficulty with the present school curriculum is that it makes no explicit effort to develop a synthetic attitude and it lacks some of the elements that are essential to such an attitude. Let me illustrate what I mean. I once saw a teacher, who seemed to me to be far in advance of most teachers, showing to pupils in the third grade some specimens of early forms of handwriting. She had borrowed from an encyclopedia some specimens of the handwriting of members of Elizabeth's court and was discussing with the third-graders why it is easier to write well today than it was in Elizabeth's time. I think that class had more respect after that lesson for modern pencils and paper and above all for their own writing than they could possibly have had without the glimpse into earlier times. It took only a little time to make penmanship a subject of thought and respect. The outcomes, I feel sure, of that investment of a few minutes of time were of immeasurable value.

Another teacher stopped the work of a class in arithmetic, which was dealing with percentage, to discuss an insurance policy. The policy was exhibited and its meaning was explained. Percentage as a process of multiplication was transformed by that lesson into an understanding of the way in which a large group of people could make small individual contributions to a general good. I do not think the processes of multiplication suffered by this temporary suspension of arithmetic in favor of understanding.

In order to make clear a geography lesson, an instructor talked about the New York Central Railroad as a result of geographical conditions, and it seemed to me that the pupils learned something not ordinarily written in the books.

I might go on giving illustrations of the way in which good teachers introduce civilization into their teaching without sacrificing the integrity of the regular courses. They take a little time in each course to make explicit the meaning that is in the course but is in danger of being overlooked if one is intent merely on penmanship or multiplication or geography.

In addition to thus making the meaning of school subjects explicit, there will have to be the creation by competent teachers of new materials for which there is at the present time no place in school curriculums. A French economist once discussed the effect on the American mind of the fact that everyone in this country can own land. Europe has been crowded since the days of the Roman conquests; it has been through many a war in the effort to determine who shall own land. In the United States we have an attitude which

grows directly out of the presence of a vast available frontier. I can think of no more useful lesson for someone competent in history and economics to inject into the curriculum than a suitable lesson on the relation of landownership to our American civilization.

Another subject which is full of romance is the history of science and invention. Long before pupils can be introduced to the technical details of advanced scientific reasoning they can learn how the generations have moved through co-operative effort toward a more complete understanding of the world. The story of science is simpler in some respects than is the science itself. So also the outcome of invention is easier to understand than are the mechanics of invention.

These remarks are intended to suggest the possibility of giving pupils in the schools a more comprehensive idea of how knowledge has developed, even if it becomes necessary to omit some of the details of knowledge which are now supplied by the school curriculum. Some of our teaching is open to the criticism that it is too complete in the narrow sphere with which it deals. We do not give pupils the impression, which they should gain, of a moving and expanding civilization. They feel that they know the subjects which they have studied, but they should recognize that they have seen only one point in a long line of evolving knowledge.

The conclusion to which the foregoing argument leads is that the school curriculum must be viewed as an introduction to civilization, not as a collection of subjects to be mastered. Every so-called "subject" is a detail or single aspect of civilization. Reading is a method of drawing upon the recorded experience of the race. Geography is the contrasting of one's own environment and mode of life with those of other peoples. Arithmetic is a means of operating on the quantitative aspects of reality with precision; science is the systematic description, classification, and explanation of observable facts. If we can devise ways of training pupils to understand that the subjects which they study are not ends in themselves, we can change their whole attitude toward study and toward the school.

We have been discussing the revision of the curriculum for some years past and do not seem to have made great progress in effecting the improvements for which we have been hoping. I believe that the principle which needs to be injected into all curriculum discussions is the principle that there is a fundamental unity in all subjects. That unity can be described as the core of the curriculum. It can be used as a guide in selecting materials in all fields. It simplifies the problem of determining objectives. It adds to job-analysis the broad humanizing outlook which makes of one's job one's share in the ongoings of community life and of civilization as a whole.

Education in History as a Need of the Time

By SIR WILLMOTT LEWIS[14]

SIR JOHN SEELEY HAS SAID: "Politics are vulgar when they are not liberalized by history, and history fades into mere literature when it loses sight of its relation to practical politics." The great Lord Acton commended this in a passage which enriched its truth. "The science of politics," he declared, "is the one science that is deposited by the stream of history, like grains of gold in the sand of a river; and the knowledge of the past, the record of truths revealed by experience, is eminently practical as an instrument of action and a power that goes to the making of the future."

It is of history as a record of the truths revealed by experience, not as a dreary record of facts, that I desire to speak. Facts, as Macaulay somewhere said, are the mere dross of history. It is from the abstract truth that interpenetrates them, that lies latent among them, like gold in the ore, that the mass derives its value. Education in history, moreover, I would sharply distinguish from instruction in history—a distinction upon which the French language insists more wisely than our own. An instructed man I should define as a man who has been taught to remember, an educated man as one who has been taught to think. And a man who does not know what has been thought by those who have gone before him is sure to set an undue value upon his own ideas. All our hopes of the future depend upon a sound understanding of the past. Nothing but a thorough knowledge of the social system, based upon a regular study of its growth, can give us the power we require to affect it.

History is something more than the history of a people or a continent, and no view of politics can be final which does not include the whole of mankind. The human race is spread over five continents, each of which has its own history and level of development; how to adjust their relations to each other is the ultimate problem of politics. It arises from the fact that one continent became versatile while the others remained comparatively static. While what has been called "the faculty of progress" was still fighting for existence in Europe, Europe itself was continually called upon to fight for existence against some power which threatened it from Asia. Numbers were on the side of Asia, but the increasing control which Europe achieved over moral as well as physical forces in the end secured her against destruction. Yet this same increasing control over nature began to open up a new and wider range of problems. By the close

[14] Washington correspondent of the *London Times*.

of the Middle Ages practical improvements in navigation had converted the oceans from barriers into highways, and in the next few centuries Europe, which had touched Asia on one side only, began to invade the monarchies of the farther East and the primitive communes of Africa, America, Australasia, and the Pacific isles. Nay, more, she brought them into touch with each other, and in a few centuries the primeval seclusion of the most ancient societies was broken up. Partitions which had divided the families of mankind were rapidly breached, and it should need no argument to prove that the fundamental problem of our age arises from the necessity of adjusting the relations of these families one with another.

"You have often heard it said," remarked Lord Acton in one of his lectures, "that modern history is a subject to which neither beginning nor end can be assigned. No beginning, because the dense web of the fortunes of man is woven without a void; because, in society as in nature, the structure is continuous, and we can trace things back uninterruptedly, until we dimly descry the Declaration of Independence in the forests of Germany. No end, because, on the same principle, history made and history making are scientifically inseparable and separately unmeaning."

I remember in my youth the scorn which John Morley poured out upon the teaching of history in America and in England which assumed that study should begin in one country at the year 1066 with the coming of William the Conqueror, and in the other at 1776 with the going of George the Third. What, he asked, could be more absurd, more narrow and narrowing, more mischievously misleading as to the whole purport and significance of history? As if the laws, the representative institutions, the religious uses, the scientific methods, the moral ideas, which give to an American citizen or an English subject his character and mental habits and social surroundings, had not all their roots in the deeds and thoughts of wise and brave men, who lived in centuries which are as much the inheritance of the United States as they are of the whole world beside! For the greatest of all the great lessons of history is the lesson of the oneness of history; of the interdependence of all the elements that have in the course of long ages made the civilized man of today what we see him to be. It is no doubt necessary for clear and definite comprehension to follow the stream of one's own national history separately, but that cannot be enough. We must see this stream as the effluence of a broader and mightier flood, whose springs and sources and great tributaries lay higher up in the history of mankind. There can be no full understanding of national history which does not take account of universal history. John Morley has also said:

If a man has intelligently followed the very shortest course of universal history, it will be the fault of his teacher if he has not acquired an impressive conception, which will never be effaced, of the destinies of man upon the earth; of the mighty confluence of forces working on from age to age, which have their meeting in every one of us here tonight; of the order in which each state of society has followed its foregoer, according to great and changeless laws "embracing all things and all times"; of the thousand faithful hands that have one after another, each in their several degrees, orders and capacities, trimmed the silver lamp of knowledge and kept its sacred flame bright from generation to generation and age to age, now in one land and now in another, from its early spark among far-off dim Chaldeans down to the good workers of our own day. The shortest course of universal history will let him see how he owes to the Greek civilization, on the shores of the Mediterranean 2000 years ago, a debt extending from the architectural forms of this very city to some of the most systematic operations of his own mind; will let him see the forum of Rome, its roads and its gates—

> What conflux issuing forth and entering in,
> Praetors, proconsuls, to their provinces
> Hasting or on return, in robes of state—

all busily welding an empire together in a marvellous framework of citizenship, manners and laws, that laid assured foundations for a still higher civilisation that was to come after. He will learn how, though the Roman Empire declined, at Damascus and Bagdad and Seville the Mohammedan conquerors took up the torch of science and learning and handed it on to Western Europe when the new generations were ready. He will learn how, in the meantime, during ages which we both wrongly and ungratefully call dark, from Rome again that other great organisation, the mediaeval Church, had arisen, which amid many imperfections did a work that no glory of physical science can equal, and no instrument of physical science can compass, in purifying men's appetites, in setting discipline and direction on their lives, and in offering to humanity new types of moral obligation and fairer ideals of saintly perfection, whose light still shines like a star to gide our own poor voyages.

It is only by this contemplation of the life of our race as a whole that men see the beginnings and ends of things; learn not to be nearsighted in history, but to look before and after, see their own part and lot in the rising up and going down of empires and faiths since first recorded time began. Morley contended that even if you can take young men and women no farther than the mere vestibule of this ancient and ever venerable temple of many marvels, you will have opened to them the way to a kind of knowledge that not only enlightens the understanding, but enriches the character—which is a higher thing than mere intellect—and enlivens it with the spirit of beneficence.

Let me turn for a moment to this land of yours, and in turning pay a tribute of gratitude and respect to an American historian lately passed from us, Frederick Jackson Turner. As a humble lay student, my debt to him—and in particular to his book, *The Frontier in American History*—is beyond repaying. It is one of two indispensable books to the man who seriously desires to comprehend the institutions and social development of the United States, but the point I would make is a point upon which Turner insisted—that this land is indispensable as a laboratory of study for those who would comprehend the development of Europe. It was Loria, the Italian economist, who urged the study of colonial life as an aid in understanding the stages of European growth, affirming that colonial settlement is for economic science what the mountain is for geology, bringing to light primitive stratifications. "America," said Loria, "has the key to the historical enigma which Europe has sought for centuries in vain, and the land which has no history luminously reveals the course of universal history." There is, as Turner admitted, much truth in this. The United States, he says, lies like a huge page in the history of society. Line by line as we read this continental page from west to east we find the record of social evolution. It begins with the Indian and the hunter; it goes on with the disintegration of savagery by the entrance to the trader, the pathfinder of civilization; we read the annals of the pastoral stage in ranch life, the exploitation of the soil by the raising of unrotated crops of corn and wheat in sparsely settled farming communities, the intensive culture of the denser farm settlements, and finally the manufacturing organization with city and factory system. What the Mediterranean Sea was to the Greeks, breaking the bond of custom, offering new experiences, that, and more, the ever retreating frontier was to the United States, and to the nations of Europe more remotely.

In all that I have said and quoted, I am but leading up to a plea for the need and the wisdom of some such teaching of history as should include instruction in a comprehensive body of rightly grouped generalities. I know, and with every fiber of me believe, that these generalities—how many soever they be—will merge into and be comprehended by two only. The first is the oneness of history and its lesson of the interdependence of man with man and nation with nation. How can I better illustrate what I mean than by saying that, as time grows older, so does the life of the individual grow more precarious? Seventy or eighty years ago, who more than the American farmer was self-sufficient: raising, breeding, and killing his own food; weaving and making his own clothes; fashioning his own shoes; building his own houses; shoeing his own horses; and all else.

And today? We see him as a specialist in one crop, dependent for the satisfaction of his own wants on a thousand others, some of them, it may be, naked coolies sweating under the tropical African sun. We are members one of another in a sense that perhaps Saint Paul never intended, woven one to another by our needs, man with man and nation with nation. And what do we see? We look out upon a world sick with nationalism, and on nations sick with sectionalism. Has history—universal history rightly taught—no lessons for us here?

It is immemorially true of civilized man—it is a deposit of truth from the history of races before us—that long dependence upon his advantages will destroy in man the qualities which created them. And so I come to that second of the two all-embracing generalities to which I referred—perhaps the more important of the two. It is that life and politics, international and domestic, must repose upon and draw their strength from moral principle, or life and politics will become vain and meaningless. All recorded history cries out the truth of this assertion. Opinions alter, manners change, creeds rise and fall, but the moral law is written on the tablets of eternity. Justice has been justice, mercy has been mercy, honor has been honor, good faith has been good faith, truthfulness has been truthfulness from the beginning. "The principles of true politics," said Burke, "are those of morality enlarged." "The eternal truths and rights of things exist, fortunately," said Froude, "independent of our thoughts and wishes, fixed as mathematics, inherent in the nature of man and the world. They are no more to be trifled with than gravitation."

History is not "philosophy teaching by examples," but morality teaching by examples. It is time now to reimpose upon mankind the scale of values which is the spiritual aspect of civilization, to say to him: "Ye are the salt of the earth; but if the salt have lost his savour, wherewith shall it be salted?" The world cries out for some criterion of judgment, and for teachers of that criterion. Religion alone cannot afford it, for religion is a part of the historic process. It is time to recapture and to reassert certain supra-religious principles upon which men of all creeds and races can combine; and these are the inviolable sanctity of human life and the unalterable principle of even justice and toleration with all that these imply. It is in our hands to do it. We cannot, like Beethoven or Handel, lift the soul by divine melody into the seventh heaven of ineffable vision and hope incommensurable; we cannot, like Newton, weigh the far-off stars in a balance, and measure the heavings of the eternal flood; we cannot, like Voltaire, scorch up what is cruel or false by a word as a flame, nor, like Milton or Burke, awaken men's hearts with the note of a

trumpet; we cannot, like the great saints of the churches and the great sages of the schools, add to those acquisitions of spiritual beauty and intellectual mastery which have, one by one and little by little, raised man from being no higher than the brute to be only a little lower than the angels. But we can remember—and remembering, we can learn—that the victory of civilized man and his civilization must depend upon his primary virtues, his original qualities as a man. These do not reside in physical strength or in ruthless will. The primary quality of man is his social quality; his capacity for living and working adequately with other men, adjusting his mind to theirs, and maintaining certain faith and unbroken loyalty. So, in our humble way, can we swell that common tide, on the force and set of whose currents depends the prosperous voyaging of humanity.

SECTIONAL MEETINGS

Education for Social Adjustment

By JOHN E. ANDERSON[1]

In making an educational program, primary consideration must be given to the kind of world for which the individual is being educated or trained. This is true whether we consider a formal school program or an informal home-training program. But what do we know about the world into which our children are going? A few years ago, we would have answered this question with more ease and certainty than we can now, for the world is changing rapidly.

Within the past century and a half, changes have taken place which have revolutionized our living. Among these may be mentioned: the series of political revolutions which brought in their train a democratic form of social organization; the industrial revolution which transported man in ever increasing numbers from the farm into the city and changed our country from a rural to an urban civilization; the rapid appearance of inventions which one after another have increased the ease of communication and the interchange between the various units both within and without a particular geographic area creating a civilization so complex that we are all intertwined and dependent upon one another, whereas formerly we could exist quite effectively in isolation; and the series of medical and sanitary discoveries which have resulted in the elimination and control of contagion and disease, the lengthening of life, and a tremendous increase in population. As a result the world has a larger quota of middle-aged and older people than ever before.

At the same time, the world has become infinitely more flexible. Changes take place with a rapidity that was unthinkable in an earlier period. Within a few weeks or months hundreds of thousands of individuals may be thrown out of employment because of events which occur thousands of miles from them. As a result of a new discovery, men who have been trained all their lives for particular jobs may find that there is no place in the world for their training and experience; for example, a highly skilled mechanic who has been through four distinct series of occupations each calling for great skill, each of which has been outmoded, now, at the age of fifty has nothing

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in prospect in spite of his skill. He is more fortunate than many because he has, after all, adapted himself successively to four distinctly different jobs.

Compare our childhood with that of the children of today. We used to spend a whole day in visiting a place ten miles out in the country, whereas we now can travel three or four hundred miles within a single day. Places formerly within a radius of one day's journey are now mere stopping places on the road. Newspapers, movies, radios, and mechanical devices of all sorts have played their parts in bringing about social and industrial changes.

What is the significance of these changes for educational practice and theory? In earlier civilizations formal education was concerned primarily with training gentlemen and scholars. Training for tradesmen and mechanics consisted chiefly of an apprenticeship on the actual job. The assumption was always made that gentlemen would be gentlemen and that carpenters or tradesmen would continue to follow their own lines. In some European countries, even to this day, there are records of unbroken contact with the same business, trade, or vocation in the same family for hundreds of years. The whole picture, whether we consider the training of gentlemen or of craftsmen, is one of training for a stable position in a stable society.

Into this conception of training and society, which did not include schools in the modern sense, there came the political revolutions which emphasized the importance of universal education and made an informed populace the basis of government. As a result the education of an earlier era was fitted to the education demanded by a democracy. This transition, which had been going on gradually for a long time, had almost been completed at about the time of the Great War.

Early in the nineteenth century another movement began which had gradually become of much significance. In a way we can speak of this movement as "adult education" even though much of the progress made came outside of organized educational channels, and though it was more or less independent of what is now known as the adult-education movement. In competition for industrial position, factories and businesses found it necessary to give their employees short courses of instruction and to call back their representatives for brief conference and instruction periods. In the medical profession, clinics, demonstrations, and institutes of a postgraduate character came into vogue. In the teaching profession such devices, which had always existed in some degree, now achieved great popularity. In order to secure more professional training, teachers started to attend summer schools and institutes of various types, held in every section.

In almost every field it has become increasingly evident that the demands of the modern world are of such a nature that it is necessary for a person to maintain a state of continuous alertness and of learning to keep abreast or ahead of his fellows. Under the stable régime which had existed in earlier civilizations, a man was educated when he completed his college or professional school or when he had served his apprenticeship. Now it is clear that this state of affairs exists no longer, that education is not a formal process confined to the limits of the schoolroom, but is a process which goes on continuously after the individual leaves school, since within a given occupation many shifts and adaptations to new fields must be made as we move forward on our merry pace.

Education for a stable world is not to be thought of in the same terms as education for a continuously changing world. Increasingly, the primary function of education has become, despite all its critics, not the imparting of specific information or of fixed rules of knowledge, but the development within the individual of an interest in learning and a desire for the acquisition of knowledge which will continue long after he has finished his formal schooling and will enable him to adapt himself to a changing adult world. Education on the job has become quite as important, socially, as education prior to the job.

The particular field of adult education, in which we are primarily interested, is the field of parental education, a movement which has moved forward at a great pace the last few years. The increasing recognition of the significance of the home in the total educational picture and of the responsibility of parents for the ultimate behavior of their children has caused the parent to take a larger and larger part in the training picture. But we have placed the parent in a peculiar dilemma. We have made him uncomfortable and ill at ease in a world which lacks stability for him, and at the same time we have given him the responsibility of preparing his children for a type of adult life which we ourselves can neither describe in detail nor outline in principle; furthermore, the shift in the social order has modified the relations of the child to the parent. In the earlier period a gentleman's son received the same training his father had had, and he was expected to take his father's place; the father, in addition to having the same type of education as his son, had greater experience which enabled him to keep his son's respect. The skilled carpenter whose son was to follow him in his profession was always some distance ahead of his son by virtue of the extra skill which he had acquired through experience. Nowadays, children are meeting with

subject-matter in school with which their parents are relatively unfamiliar; hence, the parent cannot keep the confidence of his children unless he makes strenuous efforts to keep up with them intellectually. He finds that his children grow away from him rapidly and move out into a different world.

Where can the parent turn for assistance in helping him to formulate a general program of training for his children, so that both he and his children will have confidence in themselves and in their environment, so that they can achieve a measure of happiness and satisfactory adjustment? Certainly through his own efforts alone he can do little. He must make use of the facilities which society develops for his guidance or else find himself continuously at cross-purposes with the ever more complex world.

Parental education, which seeks to meet this need, can be divided into two distinct branches, of which one, pre-parental education, concerns itself with the preparation of growing boys and girls for the responsibilities that they will later undertake in the guidance and direction of children. This field bears somewhat the same relation to adult education as ordinary academic education bears to any field of adult education. Moreover, there have appeared in various sections of the country nursery schools, pre-school laboratories, research institutes dealing with both the young and older child, interested in collecting basic data upon which sound programs in child development and parental education can be established and which in form are not unlike other established fields of knowledge. One of the most striking characteristics of the entire movement is its close contact, from the outset, with research, both by way of utilizing the results of researches already available and of proposing new and penetrating problems for study in academic institutions.

The field of parental education proper is primarily concerned with the education of parents on the job. Sometimes when I consider the relation of parental education to adult education, I wonder whether adult education is a branch of parental education or whether parental education is a branch of adult education. Either may be expanded in almost any direction and may include a wealth of knowledge. In the last analysis almost all knowledge at some point touches the parent and the child; for instance, a simple question on "What makes the snow white?" asked by a four-year-old may lead a parent far afield into physics.

In any event it is quite clear that the parental educator is interested both in helping parents effectively to guide their children on the road to adjustment and in assisting parents themselves to attain

a satisfactory measure of adjustment to their own life-problems. It almost goes without saying that the successful parent is one who is both interested and happy in his job as a parent. On the whole, well-adjusted individuals have well-adjusted children and poorly adjusted individuals have poorly adjusted children. Any measure which increases the happiness of adults, gives them new interests in life, and enables them to meet their own immediate problems more effectively, in the long run, works to the benefit of children.

By and large, the most important responses the human being makes are those to other individuals. From infancy onward he is dependent upon others for his major satisfactions in life. Their esteem for his efforts will make or break him. If the child grows up in a home in which the personal relationships are inadequate, he is likely to become a poor citizen; the responses acquired during development become the responses used toward others in adult life. From birth onward the individual is consistently being schooled in social behavior. He is educated by his playmates, by his amusements, by the commercial activities which he patronizes, by the daily papers he reads, by the movies he attends, and by all the manifold influences which are part of our civilization.

The fundamental problem of education for social adjustment, however, is primarily one of building in the individual the capacity to depend upon himself rather than upon other individuals for his basic satisfactions. At first glance this seems to contradict the statements previously made.

Our age has been called the age of the externalization of pleasures. We Americans always seem to be going somewhere to have a good time. More and more we seek our entertainment from hired performers rather than from our own activities. A recent English visitor was surprised because at each dinner party he attended, someone outside the party was brought in to furnish entertainment. He found the type of dinner parties at which seven or eight people enjoy each other's conversation almost non-existent in this country. He felt that there was a serious defect somewhere in a society which was unable to bring individuals to the point at which they could entertain themselves and be interested in one another.

Perhaps here we have a paradox. In an age in which all external tendencies are in the direction of mutual dependence upon one another, dependence upon one's self becomes all important. It is here that the program of adult education in its broadest sense has the greatest potential value. We may learn because we are parents and are faced with problems in our children; we may learn because we are the sales officers of a concern and needs must improve our sales

technique. But adult education will fail if the student does not gain from the process of learning some insight into the pleasures which come in developing his own powers and abilities; it will fail if the student does not see that learning and the pursuit of knowledge are in themselves intrinsically worth while. Culture is the capacity to select stimuli of value to one's self and the group from a complex environment. If the student becomes tense, nervous, excited, unhappy in the pursuit of knowledge, he loses rather than gains by that pursuit.

We have viewed the changes taking place in our world; we have seen parental education, as a phase of adult education, offering concrete assistance to parents in the dilemma put before them by modern life. What can we now say as to the function of the parent in the home in his relation to the child? Can we sketch in broad outline the underlying conception of child training which may be brought to parents by parental educators and which will train children for social adjustment? The first thing to consider is the function of the home. We will grant at the outset that its function should be described not in physical or material terms but in terms of the interrelationship of the members of the family.

Its first function seems to me to be the development within the child of a sense of security in his environment. The child is dependent and helpless at birth and must, in the course of a few years, build reactions to a complex and involved world. Regularity of diet, regularity of sleep, adequate material equipment, sympathetic care, affection, and confidence build up in the child a feeling of security. This is the program of the earlier years.

On the basis of this confidence in the environment the next step must be taken, which is the transfer of this feeling of security from the environment to one's self. The more gradual and complete the transition the better the home. This is the step in which some homes (and many schools for that matter) fail. The child must move from dependence to independence. He cannot become independent physically, intellectually, and emotionally unless he becomes confident of himself, unless he knows that he must take a place in the world, stand on his own feet, and become a self-sustaining, free, and independent member of the community, and unless he is given the abilities and skills so to become independent. This is the fundamental problem of training during adolescence. This principle is not imposed by the home nor by the parents, but by life itself. The home is measured by the adults who come out of it, not by the temporary ups and downs of its members during the period of development.

The home is then a social laboratory in which the child makes

his ventures into living under guidance. If it is a good home there is always in the background someone who sympathizes with the child, urges him on, encourages him, and helps him but who at the same time permits him to make his own experiments in living. The day comes when the child must take his place in the group, without the support and the protection of those who have his interests at heart. The function of the home is to prepare the child for that step. It must start by building up in the child a sense of security in his environment and a sense of confidence in people who are with him; then it must move by gradual degrees to the development within the child of that confidence in himself, that self-reliance which will emancipate him. In our age the home does not compel its children to go into the world at an early age to sink or swim, to learn in the hard school of experience; rather, it continues to function through a larger portion of the child's life than it formerly did, and it prepares him for living not by a process of revolution but by a process of emancipation.

This then is our hope in meeting the dilemma imposed by modern life: training for versatility of response; training for interest in the process of learning and the acquisition of knowledge and culture for its own sake; and training within the home for self-reliance in a world of mutual dependence.

Caught in the Jam

By ESTHER ALLEN GAW[2]

"GROWTH" AND THE "WILL OF MAN" are the two great forces in the world. Growth is that relatively uncontrolled, but not uncontrollable, change which comes about naturally. Physiological growth, familiar to us all, seldom concerns college students; mental and social growth, on the other hand, are recognized as taking place on the college level. There is great confusion in the mind of everyone, however, as to the controlled or controllable aspects of these growths. The protagonists of nature in education are those who recognize the possibilities of growth as a tremendous force. Perhaps they are correct in assuming that if we do not interrupt growth, this force alone will develop the greatest potentialities in human beings.

The other great force is here, however. We do interrupt growth, and, in so far as we agree with the other camp of education, namely, those who rely upon nurture, we admit the force of what I have called the will of man.

[2] Ohio State University.

The will of man which has domesticated stone,
'Til stones breed villages, and villages towns

is at work continually.

It is with this will of man in its social aspects that I am concerned. Unfortunately, we cannot consider simply the will of a solitary individual because each of our college girls is being molded by many wills, her own, those of her family, those of other students, and that of the university, to make the aggregate as simple as possible.

The student herself, an adolescent, is still growing: in all likelihood she is still growing physiologically; certainly she is growing mentally and socially, this latter assumption being that on which the whole college education is based. This growth is further complicated by the fact that the "will of man" in her opinions and attitudes, in those of her family, of her college mates, and of the university are all operating. Sometimes, though rarely, these forces operate together to foster growth. More often they conflict, and instead of desirable growth we get some form of distortion.

The student is the victim of this conflict, or complexity of conflicts, arising between growth and the will of man in its many possible manifestations. She is caught between many powerful forces; or we may say she is "caught in the jam."

The student's own growth, her desire to know, her desire for companionship and social happiness is one pressure. The wishes which her parents have for her, their belief in her ability to carry out their unrealized dreams, their desire to profit, personally, by her scholastic or social success are another pressure. Then there may enter, to complicate the already opposing forces, the third pressure, that of her companions, with their half-digested mental and social conceptions. Finally, to make the picture even darker, the university enters in with its prescribed curriculum and prerequisites, not to mention the individual will of each particular instructor.

In all of these pressures the student is caught; we find her pushed this way or that, according to the resultant force. The problem of co-ordinating the force and growth and the various manifestations of the will of man is the present problem of educators.

Progressive Methods in Public Schools

By ELSIE RIPLEY CLAPP[1]

THE TERM PROGRESSIVE, as applied to the school system, denotes an attitude that is open-minded and outreaching; it means advancing, improving, progressing, which is, of course, what every school desires to be.

Progressive implies also experimental, in which sense it denotes investigation, testing, scientific inquiry. Progressive educators use the one word to denote planned experimentation. In the last fifteen years there have been a number of schools which have been attached to universities or organized for the purpose of educational advancement. These laboratory or experimental schools have blazed the way, and the work has been of inestimable value to all the other schools.

The word progressive to some people, however, denotes poor methods, methods that are experimental in a poor sense, ill-judged, untested, and hastily executed. Public-school people quite rightly refuse to use these, considering them methods not adapted to their purpose and not recommending themselves to responsible people.

Methods, however, that are the outcomes of careful testing and use, that have proved successful in educating children must recommend themselves to public-school officials for serious consideration. These methods worked out in laboratory schools are, it is true, chiefly concerned with the development of individual capacities, and mainly useful in relatively small groups. This fact in itself should, however, constitute no defect. If public-school people were convinced that education could be had only in relatively small groups, then they would attempt to make groups of the right size. Public-school people are often inclined to accept undesirable conditions under which they may be working as fixed and final. As teachers they do not approve of large-sized classes, small-sized rooms, many kinds of equipment, yet these disliked conditions are often the bases on which teachers refuse to consider better conditions of work.

Progressive education connotes a certain way of working, a certain use of facts and materials, a kind of active learning, the practice

[1] Ballard Memorial School, Jefferson County, Kentucky.

of testing facts by use as a way of learning them. It emphasizes the connections between learning and living, and rests upon the belief that education is concerned primarily with growth and development. Progressive schools are organized and arranged to provide conditions favorable for these, setting value on experiences and living out their belief that learning should penetrate living. Above all else they attack all their problems from the point of view of the learner. Public schools—schools, that is, of towns or cities, districts, sections, counties—are exactly the schools to use progressive methods; because they are public schools, schools where the mass of the children of our country are educated; because they are schools of the people, democratically organized schools; because they are the schools of the communities.

It is, of course, impossible to prove by a specific instance and by demonstration the usability of any methods or ideas: first, because to the hearer other conditions and opportunities always look better than his own; and second, because the situation upon which he is to work is immediately different as soon as he begins to work on it. All that can be gained from someone else's experience in doing something is the challenge given: someone else has done it, and the suggestions may be useful if one is considering doing the same thing. In describing the attempt being made at Ballard school I shall endeavor to bring out our problem, which is not fundamentally unlike the problems other educators face. There are many other public schools, of course, that are using progressive methods: schools at Raleigh, North Carolina; at South Philadelphia, Pennsylvania; in several towns in New Jersey; in a city in California; and in a district in southern Delaware. Ten or twelve years ago similar attempts were made in Kansas and in Michigan; and at Baltimore, Maryland, Public School 76, Miss Persis Miller has for the past twenty years directed an outstandingly successful experiment in progressive education. There must be similar enterprises here in Ohio. Certainly, although these schools face locally different conditions, fundamentally their problems are similar. Localities differ, but from the points of view of schools that attempt to use progressive methods the problems are reasonably alike.

Moreover, on a deeper level, progressive education is not a special method or system, not a question of certain techniques of teaching or specific materials or equipment; rather, it is essentially an attempt to base all school procedures on the growth and development of children and to establish in the school conditions favorable to this growth. It represents an attempt to use to the full the resources of the environment, to discern the needs of the people, and to use the

opportunities the school provides to answer these needs. In these efforts it makes full use of the facts and findings of science. Its work would be ignorant and ineffective if it were not for the experiments and investigations of the biologist and psychologist and for the help of physiologists. This assistance is much more essential to it than the teaching techniques and different equipment usually associated with progressive work. The latter is immensely useful, but there is nothing final about it; it is a means to an end.

Ballard Memorial School is located about eight miles outside of Louisville in the real country. The buildings stand on small wooded hills, two meadows away from the Ohio River. They were built about fifteen years ago and given, with the land on which they stand, to the County by Mrs. Ballard in memory of a son who had died. At first it was a consolidated school, for, when it was opened, two or three one- and two-room schools near by were closed and the children came to Ballard. Even so, there were only thirty-five to fifty children attending. From the first the children came from the small homes and farms near by and from the large farms and estates. Mrs. Ballard and her friends chose to send their children, also, to this public school because they wished them to grow up and go to school with the children of the neighborhood, and this is still true. At present 210 children attend, three-fourths of whom come from the small farms and about one-fourth from wealthier homes. The country people have sent their children to the school in increasing numbers because through the money help of the wealthier group more and better teachers have been obtained. The area within which the children of the school live is too large to permit the use of a school bus. A trolley car runs out along the river and the children who cannot ride or drive or walk to school go to the car line and come to school that way. The county, in lieu of the school bus, furnishes car tickets to the children of the poorest families.

All around the school are woods and meadows, rocks and creeks. It is surrounded by farms and estates. The nearest villages are about five miles away; and Louisville is about eight miles in the opposite direction. The land which Mrs. Ballard gave for the school immediately adjoins her own estate. Her stone quarry from which the stone buildings of the school were made and a model farm on her property are open for study and use. One of the parents whose estate is across the road lends the school one of his near-by fields for a playground, and Mrs. Ballard lends us a field for school gardens.

Kentucky is a rich state in natural educational facilities. The immediate environment affords great opportunities as has been indi-

cated. Children play in the caves that were occupied by the pre-Indian races. Every spring they plow up arrowheads, and sometimes find old Indian grinding-stones, primitive stone hammers, scrapers, crude mortars, and pestles. The near-by creeks yield us excellent natural clay, and the creek beds contain fossils, imprints that appear to be those of ferns, sea shells and sea animals, and bird and animal tracks. Almost every farmhouse has some kind of collection of the relics of Indian and pre-Indian occupation and evidences of the glacial period and of the time the sea lay over this part of the land.

Today the past of Kentucky is still part of her present. It is possible, too, for the children living here to see history in the making. In one field the ground is turned up by the oldest form of plow used in this country, and in the next field a modern tractor will be at work. Some of the creeks and rivers are spanned by the old covered wooden bridges or crossed by the old ferryboat or chained ferries; others by modern concrete and stone railway and foot bridges. Steam packets of a design practically unchanged since 1840 still ply the Ohio River, and one occasionally sees typical flatboats and barges. Close by the landing stage at Louisville are modern derricks, stone crushers, and grain elevators, and yet the foodstuffs and building materials of the river freight boats are still largely loaded and unloaded by hand. The vehicles on the roadways illustrate the whole history of road transportation.

The children are able at the school to trace the whole history of wool cloth. Many of the families own sheep and shear them. They wash the wool and send it to market. There is at Louisville a good modern woolen mill. The older parents of our country children wore woolsey and linsey-woolsey and jeans in their childhood. The grandmothers still know how to weave and spin. In the immediate neighborhood is an old water-power flour mill. It still grinds corn meal. The poorer families still live lives similar to those of their pioneer forefathers. The fathers hunt and fish for food; the mothers make soap and dyes; the families gather and use herbs for minor ailments. A few families still live in log cabins; many families live in little ready-made houses. The poorer houses range from one room with a lean-to to three or four rooms; the better ones from three to eight rooms.

In spite of these conditions the parents of the pupils are in the main fine, simple, and self-respecting people who try pitifully hard. They are gentle and honest. The children show the lack of physical care, but many of them learn easily, are quick-witted, and do excellent work.

Our wealthier families live in large houses on estates and farms.

These children are surrounded by comforts and conveniences. They all have dogs and ponies. They, too, are gentle and honest; many of them are quick-witted; but they have had to learn how to work, how to study, and how to use their hands. Not many of them have much initiative although they are gaining this in the work at school.

It seemed wise at the start to base the programs upon studies of conditions that were familiar to them and in history classes first to investigate the history of their own state, for, although the children were little informed about their surroundings or their own background, they had no information or ideas about distant facts and conditions. They have learned rapidly and are now increasingly able to use their knowledge of things about them for an understanding of the facts, and of people and places and times at a distance. The shop of industrial arts, started with the belief that all the children should be educated in the simpler processes of obtaining food, shelter, and clothing, has proved to be of the greatest possible use and value. They studied the Kentucky topography and geology, its deposits, its waterways and roads, its crops and markets, and also its forests. No shop before, surely, ever directed so great a variety of enterprises as is carried on in the shop and in the rooms, indoors and out. An account of the activities of two groups will illustrate the work of the school.

The programs which we instituted at the school and which we have in the main kept for these first two years are described in the pages which follow. The first grade made a farm study; the second, a study of village communities. After these first studies in the world about them, the third grade took the life of the Indian and of the pre-Indian people who lived in the caves near by. The fourth grade studied the families coming into Kentucky: their settlement in the wilderness, the clearing of the land, the building and furnishing of the log cabins, and all the processes of daily life in the home. The fifth grade had a study of transportation today and in early times, which followed the ways in which the early settlers came into Kentucky. This inevitably drew upon knowledge of the early settlements from which they came. The children knew little about these and asked if they might not have a year to find out about the settlements on the coast and the countries overseas from which these people came. They did this and so the program has turned into a two-year unit covering the fifth-grade work last year and the sixth-grade work of the year just passed.

The seventh grade of that year was to study the first stretch of Kentucky history. Convinced that "there never was no Indians outside of Kentucky" they began with studies designed to correct that impression and busied themselves throughout the year with an ex-

tensive study of Indian tribes and cultures in America including detailed investigations of a Wisconsin tribe, studies of southwest Indians and Pueblos, and excursions into the study of Mayan civilization, and they returned in the spring to a long piece of work on the southeast Indians of several tribes who hunted and camped in Kentucky. This was an active, restless, lively group, with little use for books. They received not only enormous interest and satisfaction and release for their energies, but also an amazing directness of approach and a genuine interest in getting hold of facts.

The eighth grade worked on the later period of Kentucky history or at least the period that began with the introduction of steam packets and railroads. They started with a study of power, steam, and electricity, and its application to machinery. This led them at the outset of the year to a piece of work on the geological resources of Kentucky. They went deeply into all phases of the life of the period from 1800 to 1850 and covered an astonishing amount of ground.

At their own request the ninth grade studied ancient history, which was not required, and took the necessary work in first-year Latin, in mathematics, and in English. The boys of both the eighth and ninth grades began a preliminary course in industrial geography and the girls, courses in home economics.

At the weekly staff meetings throughout the year we discussed the relevancy of these programs as they developed and checked them against our growing knowledge of the country and its life.

This year's eighth grade followed the study of Indian culture made the year before by one of the French, Spanish, and English people in the valley of the Mississippi and in other parts of America, with some study of the ways they had lived in their own country before they set out; they investigated what they did, how they lived, and how they got on under the conditions they met in the new world. The children were interested in the relations of these three peoples in the conquest and settlement of the region also. This program they were anxious to do because in their study of Indian types they had been fascinated both in that part of Indian culture which the living of all the different tribes illustrated and the different features of their life called forth by the conditions under which they lived—the Indians of the desert and the plains, the Pueblo Indians, and the types that hunted in Kentucky. In working out this the girls had become fascinated with their weaving, the boys interested in their implements, their decorative designs, and their fire making. Because boys and girls had been interested in Indian pottery, they were thrilled by their anticipation of learning about Spanish pottery and textiles. One of the boys in the class was of a French family who still owned

implements brought with them from France into Kentucky. In spite of these leads into the program, the children found it hard to make real to themselves what must have been the life of these races in the old country. They were astonished and incredulous regarding the chateaus and castles, and disapproved emphatically of the elaborate and cumbersome dress of the period. The boys had a lively interest in the kinds of people who came over, the ships in which they sailed, and the voyages that they made. The class as a whole had a great flair for geography, and the girls were absorbed in the quaint customs and the ways in which the farmers of France, for instance, spun and wove and baked. They were interested to trace in detail the life of these peoples, especially the lives of the farmers and home-makers, under new conditions.

This was the first attempt to introduce these Kentucky children to the far-away. It proved to have all the difficulties we anticipated and, because of this, we made no effort to move from the local studies with which this work had begun. In Kentucky Europe is not very real to the children. They hear stories from returned travelers, if they are fortunate enough to number some among their friends, with the same omnivorous acceptance with which they regard the marvelous things pictured in the *National Geographic Magazine*. It is doubtful whether they believe that the Far East exists. Many of them think, probably, that ancient life was existent in Kentucky alone. Although the oldest class, the ninth, has been eager to find out about ancient history, the younger classes are singularly incurious and disinterested about the long-ago and far-away. This is natural, all things considered, and not to be wondered at, but it presents a condition which it is folly not to take into account. In this year's annual staff meeting we decided to continue to work toward wider stretches of experience and knowledge of distant people and places, but lest the ends be defeated, we decided that this should not be done too hastily.

The class that came into the ninth grade in the fall of 1930 from their extensive study of Kentucky to the present seemed suddenly more mature and more intent on their preparation for the high-school years in town to follow. They had been, of course, very much interested in language; the class was expressive and talkative; there was an ability to write among some of its members. Indeed, one of their enterprises in their eighth-grade study had been issuing newspapers and magazines both in the manner of the period of 1850, and in the manner of today as they conceived it. I dare say that interest in this was somewhat colored by Louisville's pride in her famous newspaper, the *Courier-Journal*. The teacher who had this class in most of its subjects and who had had these children in history the

year previous, George Beecher, had a great interest in linguistics. He had spent the intervening summer working out a program for them and for the seventh-grade English classes also, developmental in character. For the ninth grade he worked out an interrelated plan of work in English, medieval history, a study of manuscripts and early records, and of beginning Latin, followed by an interconnected study of Roman history, manuscripts, and Latin. The response of the class certainly must have repaid him for his care in gathering and collecting this material. He was able to find in the medieval and in the Roman period a common denominator with the life of the children in Kentucky. They investigated the Roman villas which as self-sustaining farms figured prominently in the history and literature of Rome. Pliny's letters and other pieces of Latin writing supplied them with a great deal of concrete detail, which their own lives could interpret for them, as well as excellent and simple material for translation. At the close of the year they chose to plant their vegetable garden in the form of a Roman garden and selected with care the flowers and vegetables that the Romans had been familiar with. They accurately followed out the history of records and were interested in manuscripts from every point of view. The work of the earlier part of the year was a background for the production of the old medieval nativity play taken from the town cycles of Townley and Coventry which the class acted and helped to produce at Christmas. At the close of the year they wrote and presented a play in Latin centering about a visit of the Emperor to a country villa.

The class was perfectly delighted with their year's experience. Mr. Beecher, who is also musical, co-operated with the teacher of orchestra by putting into their studies some account of the history of music, especially dwelling on the music of the trouvères and troubadours, and following out the growth of opera.

For the nine-year-old children in the fourth grade we used both years a study of the settlement of the Boones and of the families in Kentucky, their coming out over the Wilderness Trail, and the processes of clearing the land and building homes in the wilderness. This material seems to be right for children of this age in Kentucky. They love it and live it out with complete absorption, stopping with regret at the year's end. The quarry, an old stone quarry partly grown with vines and young trees, should be listed as one of the most important educational features of our immediate environment. It reproduces perfectly the scene of many events in the earlier history of Kentucky and offers a fine, free un-fixed-up place for the children's use in almost any enterprise they have on hand. The rocky sides appear to them now as Pueblo cliff dwellings, again as the

Wilderness Trail of the mountains. Its flatter stretches have contained a tobacco patch and an Indian corn planting. It is here that the seventh-grade log cabin has been built in such a sheltered nook as pioneers might have selected. Here Indians have appeared and bartered with hunters and here the Boone family often has camped for the night, in a lean-to which the children have put together, and has blazed a path through the Wilderness Trail, camping for the night, the men hunting for food, the women making an outdoor cooking place and getting water from the near-by spring to wash clothes. One of the fourth-grade boys at the end of the year threw down his cap and stamped on it saying, "Darn, I just wish I'd been born a pioneer boy." Somehow there is something satisfying to children in sharing in all the things that have to be done in such a home. They like to wash and prepare the wool, card it, and spin it; to rot and hackle and break the flax, spin it, and weave it; to make soap and dyes from nuts and the bark of trees and vegetables; to dip candles. They enjoy the job of making the pegged log stools and half-log benches. They enjoy making the flax and wool implements and like the weaving and spinning. The journals of the early travelers prove a great source of interest to them. The kind of efforts that the pioneers noted down and the things they told are much what they themselves would have recorded. The children quickly identify themselves with the whole experience. It is something like their life still, with its meanings brought out, stripped of hardship, and tinged with romance. They have an amazing power to absorb and to use the facts that reconstruct this experience for them, and they express these constantly in stories and diaries, in paintings, and in conversations. Miss Sheffield, who has successfully handled this work for two years, has given an account of the way in which these experiences flow into dramatic plays. Three times in the course of the two years there has developed out of it a play which the class has shared with the rest of the school and the parents. An account of these plays that Miss Sheffield wrote, together with an account by George Beecher of an eighth-grade play of Kentucky in 1840 called "The Old Mill Feud" and the Latin play of the first year, "Horace's Sabine Villa," appeared in the *Progressive Educational Magazine* last year in the February issue.

The sixth-grade children who asked to spend two years on their program, after devoting the first year of study to the English and Dutch colonies on the coast, and to the lands from which the people came who settled these, in their second year studied the coming of people into the wilderness of Kentucky from these colonies. The class divided itself into two groups—one group tracing out in detail the

pioneer entrance into Kentucky over the Wilderness Trail, the other group following out the entrance by water. There were of course a great many questions worked out by the whole class, and one group while studying would often find material useful to the other. Mr. Howard, who had charge of the group over the two-year piece of work, is past master in the art of managing children's discussions. The class had, before he came, been one of the most unruly in the school, frequently dividing into clans and cliques which made their own excitement by various kinds of feuds and wars. When Mr. Howard began to live and work with the group, he was wise enough from the outset to let in plenty of air on all matters under discussion. The children gradually gained the habit of thrashing out anything they had on their minds. Indeed, they began to look forward to this free exchange of ideas and opinions. This is one of the factors that held the two independent projects of study together; it also made possible and profitable the work on individual topics by members of both groups.

As the children worked upon their topics, they began to project themselves into the conditions. The boy that looked up surveying began to think of himself as a surveyor living at this time; the boy who looked up land speculation came to see himself as Henderson; the girl who studied Mrs. Boone's life and experiences in detail almost believed that she was Mrs. Boone. In the first year when the children had been studying the eastern colonies and their people, they had done a great deal of informal dramatizing. They had used this as a means of presenting to the class any material in which they were interested. So it was quite natural that the children studying these various characters should feel as if they were the characters in a drama reproducing the life of these earlier times. Small scenes setting forth incidents like the departure of the river group from a settlement in Pennsylvania, which the children thought important in the story, were acted before the class. The class criticized this and made suggestions, and the group re-wrote and re-presented it after further work on it. The children tried to think what they, as these characters, would say and do under certain circumstances. They thought up good pieces of dialogue to fit certain occasions. When the play was finally presented at the close of the year its lines were unusually effective, both dramatically and historically.

The selection of topics and the choice of characters was perhaps further influenced by family stories and traditions. They found many things that were close to their own experiences. Rivermen, farmers, hunters, traders, mill owners, innkeepers, planters, all these kinds of

people they knew. They were interested in what they could find out about schools and schoolbooks, about river pirates, about tailoring and sewing, about the salt licks and the trading that went on at them, about tobacco growing, and about medicinal herbs. In fact, this last inquiry, started by one of the boys who was not so fond of books, drew forth a great deal of information in use today about herbs and their curative properties. "Dr. Vaughan's Medicine Book" held descriptions and recipes and illustrations contributed by the members of the class of such herbs as horehound, ginseng, mullein, Jimson weed, castor bean, everlasting, slippery elm, boneset, peppermint, calamus, tobacco, fennel, catnip, May apple, and sumac. This study revealed to the teachers, even more than to the children, how much this knowledge of herbs and of their uses as medicine was still current in the countryside today, and gave one more insight into their lives.

Any mention of tobacco elicited a great deal of information from other members of the class, for some of them helped to raise tobacco at home, and knew about its cultivation and the methods used in raising it. To meet this interest a few members of the class formed a Tobacco Growers' Association, which led in the study of the tobacco plant. A good exhibit of tobacco was hung in the room, and a small piece of ground on the quarry was used for raising some. This was an interest incidental to their general purpose but contributive to it; furthermore, it was an occupation of the fathers of many of the families since tobacco and corn are the largest crops in Kentucky today. This was another evidence to the teachers of the fact that life in the rural districts of Kentucky has not changed greatly from life in the pioneer days.

In this study every possible source of information was tapped; books and bulletins of all kinds were used. Some were bought, others were borrowed by the school from the city and state libraries; and still others were lent by the parents. Family treasures and relics, museum collections, and the duplicate at Harrodsburg of the old fort to which the class took a trip, all served to make the occasions they read about real to them. Their parents and friends and neighbors contributed a great many facts, and their information and memories added a great deal that was to be found nowhere else. The class did a first-rate piece of research work, which added vitality, because it was research into matters still of absorbing interest to both older and younger Kentuckians.

In the first year of his work with the class Mr. Howard spent a great deal of patient effort in teaching the children how to read

understandingly, how to get information from books, and how to report and discuss this with others; therefore the class approached its second year of work well equipped in these ways of learning. Their work was the kind of work that eleven- and twelve-year-old children in the sixth grade are able to do. In the amount that they accomplished, however, in the quality of their work, and in the vigor of it, they far outstripped a usual sixth-grade performance. The very characteristics that had made them unruly and unmanageable proved to be invaluable when they were redirected. The class has many able, active members, which is practically always true of unruly classes. The direction of this energy and ability into work of an interesting kind was in itself a fine piece of educational activity. Mr. Howard's liking for children, his sympathy with their point of view, his sense of humor and social tact, his own meticulously careful scholarship, his ingenuity and resourcefulness, all contributed to this result.

In this work the class drew on the shop at every point. During the first and the second years the children made many implements and utensils that illustrated their researches. The Trail Group lived through the experience of blazing a trail and cutting a path through undergrowth in near-by woods. The River Group built in their classroom a full-sized flatboat and did an excellent job on it. The trail and the flatboat were scenes of the dramatic presentation of their study at the end of the year, which presentation was peculiarly the work of the children. The four girls in the class, which numbered twenty-six, designed, planned, and made most of the costumes used.

This work, so many-sided and varied in character, constantly used the children's ability to measure and figure and gave them practice in the arts of writing, speaking, and reading. The class is practical minded, not markedly artistic, except for a few outstanding members, but through the two years they have gained not only in their ability to express through painting the things they are learning and experiencing but also in their desire to do so. For the most part these are practical, factual: a stockade, a blacksmith's shop, an Indian pipe, a keel boat on the river, a powderhorn, a loom, and the like.

If the sixth-grade and fourth-grade programs approach our desire to give children a rounded education, it is partly because the content of each program is nearly consonant with the interests of the children at the respective ages, and partly because the two teachers have in their work given the children elbowroom, space and opportunity for all their own small daily concerns. In spite of the interest and satisfaction of the children in these programs, we feel that this is not all there is to do. Thus, despite the fact that the shop has given them so much ability in the use of tools and in power to attack a

problem directly and effectively, and despite the co-operative work in mathematics, in the study of barter, in the samp and coin collections, and in work on measures and drawing to scale, it is necessary to look more penetratingly into the problem of using the school and all its resources and of interpreting the educational needs of the children. What would constitute a rounded education for these nine-year-old children, for these eleven-year-old ones? We do not yet have the answer. We need to understand more completely their whole lives at this age. We wish to succeed in having the children gain a greater self-reliance and independence, and to develop a steadier habit of working, and a more joyful and generous and fair-minded playing with others. We are content that the situation even as we have it gives each individual child ample opportunity for development. How to stimulate and encourage him to use this to the full is a current problem.

It is hard to give a name to the kind of main enterprises of each class. The social-history, geography, and industrial-arts units can be summed up in the term "social studies," if by that is meant the social functioning of these studies. A class called industrial geography ramifies into all sorts of things, into the Louisville markets and the Board of Trade, into the farms and the 4-H Clubs, into the school gardens, into statistical and economic studies of the productions of this and other countries; it is this class that will concern itself with the raising of poultry for the Louisville market. The first grade has as its center of study, farms; the second grade, a village; but neither of these studies is limited by the fact that they are undertaken at school. The school can simplify existing conditions for these children and can select certain aspects for investigation. Whatever study the school does is made real and important through the fact that the things studied are a part of the lives of the children. Wherever they live they trade in the villages or the city. They either live on farms or get their food for them. So, the ninth-grade class which is especially investigating modern times has been interested in sources of power in the development of machinery, of factories, and of river and road terminals, and in the connection between the country and city, which studies are carried on out of school, using the school and its resources to work out certain questions that arise in the work.

All this learning is active, yet information or skill is often acquired directly. We use materials in a thousand ways many times a day; classes in mathematics, in spelling, in reading, and in writing; indeed, classes in all these tool subjects fill much of the time, for they have special social values, since they increase the child's literacy,

advance his education, and also prepare him to earn a better living than his father.

From the original twenty storybooks and the ancient set of encyclopedias and battered dictionary, found in the school, has developed the nucleus of a good library of reference books for our programs and books of fiction which the children and older people of the countryside borrow. In time we hope to establish branches in the near-by villages and to offer courses in library work at the school.

Progressive methods denote a certain way of working, a certain kind of use of facts and materials. Progressive education describes a kind of active learning, the practice of testing facts by use as a method of learning them. It emphasizes the connections between learning and living. It rests upon the belief that education is concerned primarily with growth and development. Progressive schools are schools that are organized and arranged to provide conditions favorable for this. They set value on experiences and live out their belief that learning should penetrate living. Above all else they attack all their problems from the point of view of the learner.

I said, too, at the outset that public schools, if no other schools, should use progressive methods. They, more than any other kind of school, have the responsibility of giving to their children the only education that they will receive probably. For this reason it ought to be a complete and effective education. If schools are concerned with the growth and development of children the work would not be confined to learning from books only, to receiving or imparting instruction, or even to the usual school subjects. Education as growth and development includes everything that concerns a child and his welfare, his school, his health, and his home life.

We have had in Kentucky the advantage of working among simple people and among well-educated people. We have also had the disadvantage of the loving and smothering overcare of the latter group and the ignorance and neglect of the former. We have, I think, great natural educational advantages. We have also a poorly equipped school building and little money. Better for our purpose than anything else, perhaps, is the fact that we are the school of a community. Our parents love the school and give to it, each according to his ability. Whatever we do at the school penetrates the lives of the children. And the life of the community penetrates the school. We are part and parcel of it.

Causes and Overcoming of Absence

By W. C. REAVIS[1]

THE PUBLISHED STUDIES OF NON-ATTENDANCE have for the most part been general in character and have not dealt specifically with the secondary school. Since the secondary period in most states is only partly under compulsory education laws, any study of non-attendance which neglects the secondary school evades the real educational problems involved in the causes of absence and their remedies.

This paper will report the findings of three unpublished studies dealing with the causes of pupils' absences in a junior high school enrolling 1,473 pupils in a city of sixty thousand population in Northern Illinois, a four-year high school enrolling 1,880 pupils in a city of one hundred ten thousand population in the southeastern part of Kansas, and a township high school with an enrollment of approximately twelve hundred pupils near Chicago.[2] In the last school the study deals only with the causes of absence among girls.

A large number of causes of absence and tardiness have been discovered in the general studies of non-attendance. Some of the causes may be considered legitimate: personal illness of pupils, illness in the family, lack of clothing, quarantine, and inclement weather; other unlawful causes just as frequently found are truancy, parental neglect, illegal employment, visiting friends, shopping, and the like.

Since absence and tardiness are closely related to the achievements and standards of work of pupils, the study of non-attendance in secondary schools is a prerequisite of efficient pupil administration. Remedial measures projected by administrators without careful diagnosis of causes are usually futile as remedies and at best have only temporary effects. By this I do not mean to infer that one school

[1] University of Chicago.

[2] Muth, H. C. "The Causes of Pupil Absence in the Roosevelt Junior High School, Rockford, Illinois," 1928. An unpublished Master's thesis on file in the library of the University of Chicago.

Smith, W. A. "Causes of Absence and Tardiness in the Wyandotte High School," 1931. An unpublished Master's thesis on file in the library of the University of Chicago.

Jacobsen, Alta T. "The Causes of Absence among Girls in a Suburban High School," 1929. An unpublished Master's thesis on file in the library of the University of Chicago.

cannot profit by the remedial measures used in another school, but the value of any remedial measure for a school depends upon the causes of absence in the school. If the causes are general, then the remedies found to be effective in one situation may prove valuable in another.

The causes of absence and tardiness herewith reported are believed to be general in secondary schools and characteristic of pupils in the secondary period. Several causes will be considered in turn.

Distance traveled to reach school.—In the junior high school the distance traveled by the pupils to reach school showed very little correlation (.25) with the amount of absence, and there was no appreciable difference in the correlation for either sex or grade. The coefficient of correlation between distance of home from school and the number of days of absence in the regular four-year high school was .06, and between distance and number of times the pupils were tardy the correlation was approximately the same, thus indicating a slight relationship between the factors compared. In the study of 569 girls in the suburban high school, the author found practically no correlation between the distances traveled daily by the girls and the number of their absences from school during the year. She found that the distance traveled daily varied from a few blocks to five miles. The average absence for 155 girls who traveled only one-half mile daily in getting to school was 11.4 days. A group of 191 who on the average traveled a mile daily had an average absence of 11.1 days. A group of 130 who traveled a mile and a half daily had an average absence of 12.8 days. A group of 36 who traveled two miles daily had an average absence of 12.5 days. A group of 26 girls who traveled three miles daily had an average absence of 11.4 days, and 5 girls who traveled five miles daily had an average absence of only 10.4 days.

Method of getting to school.—In the four-year high schools the pupils who walked to school were absent and tardy the least. Those who came in automobiles or in street cars were absent approximately three days more than those who walked; their tardinesses were from 30 to 60 per cent greater. The boys who came by automobile were absent 2.2 days more than the girls who came the same way. In the suburban high school the large majority of the girls walked to school and their average absence for the year was 11.6 days; a group of 63 girls who came daily to school in private automobiles, 13.2 days. A group of 40 who came by interurban train had an average absence of 13.3 days, while a group of 23 who came from a remote part of the district in the school bus had an absence of

11.5 days. The data show that the girls who walked to school daily missed on the average 1.7 days less each year than those who came either by train or in private cars.

Weather conditions.—Weather, including precipitation and temperature, had a slight effect on absence in the junior high school. The correlation for the year between precipitation and percentage of attendance was .28, and the average percentage of attendance for the months with normal temperature was only a fraction better than the average for the months with subnormal temperatures. Similarly in the other schools, the condition of the weather was found to have only a slight bearing on absence. The records of the suburban high school show that on forty-three rainy days the average absence of the girls was 42 per cent daily, while on the non-rainy days the absence was 39 per cent daily.

A factor of more significance among the girls was the condition of the weather immediately prior to the time of starting to school. The days on which the precipitation occurred near school time the absence was 2.9 greater than it was when the precipitation was general or when it occurred later in the day. Temperature seemed not to affect absence materially, although on days when a marked change in temperature occurred the absence was 2.2 more than on days when there were no marked changes in the temperature.

Nationality of parents.—The pupils in the Wyandotte High School whose parents were American born had a slightly higher percentage of absence and tardiness than pupils of foreign-born parents. The same was true of the girls in the suburban high school when the comparison was made between those of American-born parents and those whose parents were of German, Scandinavian, and British descent; however, when the comparison was made between the girls of American and those of Bohemian, Jewish, Negro, and Italian parents the absence was about 50 per cent less for the American group.

Occupation of the father.—Pupils in the four-year high school whose fathers were engaged in agricultural pursuits were absent and tardy more than the pupils whose fathers were in other groups. The pupils whose fathers were engaged in commercial occupations were absent least and those whose fathers were manual laborers were tardy the least, although the differences were only slight. The fathers of the girls enrolled in the suburban high school were divided into two classes, skilled and unskilled. It was found that the girls whose fathers were engaged in unskilled labor averaged 19.7 more days of absence during the year than the girls whose fathers belonged to the skilled group. The average number of days of absence of the girls of the unskilled group was 30.6, while the average of the skilled group was

10.9; the average for the entire school was 11.9. There was only a slight difference in the absence of the girls whose fathers were living or dead, the former being 11.8 days and the latter 12.6 days.

Work outside school.—The pupils of the junior high school were absent from school in 6 per cent of the cases on account of work at home. Those in the regular four-year high school who worked outside school averaged from one day (boys) to two days (girls) more absence for the year than those who were unemployed. They were also tardy more frequently than the pupils who did no outside work.

Some girls of the suburban high school engaged in various sorts of activities outside school, such as practicing music lessons, taking dancing lessons, and the like. In the records of the school these girls had less absence than those who did not assume any out-of-school obligations. The average absence of 133 girls who practiced lessons outside school was 9.6 days, while the girls who did no practicing had an average absence of 12.5 days. On the other hand, girls who worked outside school for money had more absence than those who did no work. In the former case the average number of days of absence was 16.2, while in the latter it was 11.4.

Scholarship in school.—The data collected from the regular four-year high school show that the pupils whose names were on the honor roll of the school were absent on the average 3.9 days and tardy only .5 times as compared with an average absence of 8.2 days and tardiness of 1.2 times by pupils not on the honor roll. The girls of the suburban high school who were members of clubs had an average absence of 7.5 days, while those who were not members of clubs had an average absence of only 6.3 days. Girls on the honor roll for scholarship had an average absence of 5.3 days; those not on the honor roll had an average absence of 13.5 days. Pupils who failed in one or more subjects had an average absence of 13.9 days, while those with no failures had an average absence of 11.5 days. The club members had an average absence of 4.6 times; the non-club members, an average absence of 7 times; and the officers of the clubs, an average absence of 4.6 times. The girls on the honor roll for scholarship were absent on the average 3.5 times, while the non-honor list of girls averaged 6.3 times.

Time of week and year.—In general the absence was found to be greatest during the winter months. Holidays and vacations were characterized by increased absence (approximately 30 per cent). In the suburban high school there were six holiday periods in the year. It was found that 54.6 days on the average were missed before and after the holidays, while for the rest of the year the average of days of

absence was only 38.3. The difference of the averages, 16.3, represents the tendency of girls to be absent preceding and following holidays. This is an increase of 42 per cent in absence for days preceding or following vacation periods. It was also found that the average absence for Mondays and Fridays slightly exceeded the absence for other days, the percentages being for Mondays 41, Fridays 40, and other days, 39. Absence at the beginning of the semester was slightly less than the average absence for the whole year. At the beginning of the first semester, the average number of days of absence was 39.3, and at the beginning of the second semester, 39.4, while for the rest of the year, the absence was 39.4.

Illness.—The predominant cause of absence in the junior high school was personal illness which accounted for 63 per cent of the cases of absence. Refinement of the data shows that 36.3 per cent of the cases were caused by respiratory illnesses and that the months having the largest percentages of cases of illness were January, May, February, and November. The months having the lowest amounts of absence caused by illness were September, October, June, and December. In the regular four-year high school it was given as the cause of 69 per cent of the absence of boys and 72 per cent of the girls, and in the suburban high school as the cause of 69 per cent of the absence of the girls.

Illness in the family produced 9 per cent of the absence among the junior high-school pupils, 14 per cent of the absence of girls and 8 per cent of the absence of boys in the regular four-year high school, but only 3 per cent of the absence of the girls in the suburban high school.

Work.—Work in the home was given as the cause of absence in 6 per cent of the cases in the junior high school, and work out of school as the cause of 11 per cent of the absence of boys in the regular four-year high school and of 6 per cent of the girls. In the suburban high school work in the home was assigned as the cause of absence for 3 per cent of the girls and work outside the home by another 3.1 per cent of the girls.

Truancy.—Truancy was thought to have caused 2.3 per cent of the total absence in the junior high school, the boys being charged with seven times as much as the girls. The percentage of cases of absence caused by truancy is less in the other schools than in the junior high school, although the boys in the four-year high school were responsible for nine times the amount of truancy of the girls. The cases of truancy among the girls in the suburban high school were negligible.

Miscellaneous causes.—Numerous other causes of absence among

pupils were given in the three studies, such as engagements with dentists, physicians, and oculists; attendance at weddings, funerals, theaters, and parties; and the necessity of shopping, doing errands for parents, and the like. In most cases in which excuses were furnished by parents for the absence of a pupil, the causes were regarded by the parents as legitimate and the occasion necessitating the absence of greater importance to the pupil than school was.

Data compiled by the Research Division of the National Education Association[3] regarding attendance in public elementary and secondary schools in the different states show that the percentage of pupils enrolled in continental United States which attends daily is only 83. The variation in the states is from 69 to 89 per cent. These findings reveal a need of improvement in remedial and corrective measures of non-attendance.

In the elementary schools many devices for the correction of unnecessary absence have been utilized with varying degrees of success. At the secondary-school level most of these devices are of little use. Different methods of dealing with absence and tardiness must be employed. The attitude of parents and pupils toward regularity of attendance must be changed. The consequences of absence must be shown and the parents and pupils led to realize that unnecessary absence is not only a personal loss to the pupil but a social offense to the teachers and pupils with whom the offender works.

Through school, home, and pupil co-operation the causes of absence, such as personal illness; illness in the home; engagements with oculists, physicians, dentists, and music and dancing instructors; shopping; and social engagements can be greatly reduced. The responsibility for creating public opinion among pupils and parents with respect to the avoidance of absence rests with the school. This can be accomplished through the leadership of the principal with the support of visiting teachers, attendance officers, guidance officers, homeroom teachers, and classroom teachers. The support of student leaders must also be enlisted in order to develop and utilize public opinion with maximum effect.

The pupils and parents must be trained to differentiate sharply between necessary and unnecessary absence, if the effects of non-attendance at the secondary-school level are to be minimized. Permanent improvement in school attendance will come as a by-product of right teaching and wise educational leadership in school and community. The efforts to correct or remedy the causes of absence by any other method will produce only temporary results.

[3] *Journal of National Education Association*, XXI (April, 1932), p. 126.

School Attendance a Factor of Social Welfare

By FAY L. BENTLEY[4]

A NATION-WIDE STAY IN SCHOOL and back-to-school movement which the President's Emergency Committee for Employment sponsored in August, 1931, urged that advantage be taken of the industrial depression. It encouraged the utilization of every avenue of preparation for greater future industrial usefulness and for the enrichment of American life by keeping children in school and providing adequate facilities for them in the face of the present emergency. This action is practically a public proclamation that school attendance is not only a factor of social welfare but is one of vital importance in this period of social stress. The committee advocated school attendance as one of the means of meeting the unemployment emergency, not only for those who would ordinarily be leaving school but for those young people who had previously severed their school connections, which action paved the way for the extension of opportunity for school training to a large group even after the emergency would pass.

To the enforcing and administrative officials, the important consideration is how may this instrument of school attendance be best used to build up a higher level of social welfare and to raise a barrier against the impact of threatening destructive forces upon the standards already set up.

Let us first briefly examine this tool, compulsory school attendance, that is ready to our hands. Today we are likely to regard it as a commonplace, but it has not always been so. Fifty years ago the provision for compulsory school attendance, and indeed the establishment of free schools, was still bitterly contested. Compulsory education laws, the proper enforcement of which we now recognize as a factor in social welfare, were said to "create a new crime," to "interfere with the liberty of parents," to "arrogate new power to the government," and to "be un-American and unadapted to our free institutions." With the growth of the social realization of the functions of the state, this tool has become universal in the United States. Its extension was slow geographically, and also its application to all races and to more inclusive age-groups.

The first Ohio compulsory education law enacted in 1877 was "to secure to children the benefits of an elementary education," but it was so amended during its passage as to be practically inoperative. It meant that children could attend school but not that they must.

[4] Washington, D. C., public schools.

There was no penalty and no machinery for enforcement. The clerk of the board of education was supposed to enforce it, but he could do nothing except when a written notice was served by some member of the board or by some person who felt aggrieved; and then, in the words of the *Ohio School Report* of 1877 "he may do all he can, which is simply nothing." Here was the beginning, but it was not until 1889 that truant officers were required to be appointed.

The school is the only institution, and the school attendance law the only law, so far as I can ascertain, which under our modern system actually touches every member of the body politic not only at some time during his life but continuously during a considerable portion of his life. All children must attend school. No other institution is so universal: not even the home is universal for all children; the church is not universal; fortunately, our courts touch comparatively few of our children. Moreover, the contact of the school is extended over the most formative years of the life of the individual. The first Ohio law required children between the ages of eight and fourteen years to attend school 12 weeks during the school year, which guaranteed to the child, during his entire compulsory school age, 72 weeks of education. Today Ohio leads the states in requiring attendance, during the entire school year, of unemployed children to eighteen years and of all children to sixteen years of age, exempting for work none who can profit by attendance. No other agency has a comparable opportunity during the formative years to serve in developing children for intelligent citizenship and a well-rounded life.

Basic to the value of "education as a social investment" therefore, must be the actual attendance at school of all the children whom the law affects and who will be the future citizens, lawmakers, and social leaders, or who may be our future beggars, criminals, and unemployables. Our primary duty, therefore, is to develop a technique of enforcement which will actually bring, so far as is humanly possible, every child to school every day that the school doors are open to him, or, in the teaching of the physically handicapped, will bring the school to the child. This presupposes as its basis a sound system of child-accounting, namely, detailed information regarding the individuals for whom school attendance is required; clerical workers; uniform and complete reporting from private, public, and parochial schools; officers trained in social-service and case-work methods; health service as exemplified in psychological, physical, and dental clinics; and finally, co-ordination between the school and the social resources of the community. But many of these multitudinous elements I have not space to consider nor are their details exactly

germane to my subject. It is sufficient to point out that they are basic to any effective operation of whatever social influence public education may be able to exert.

Whatever value education may have to the individual—and under our theory of citizenship it is of primary importance—that value is lessened by every day that any child is absent. Moreover, the actual day's absence does not represent the sum total of loss. Every teacher knows that even a short absence at a crucial point in the course may hamper months of educational progress. The progress of the entire group may be slackened through the efforts of the teacher to catch up the threads for those who have been absent. More significant than the lack of educational progress is the possibility that even a short absence or truancy may be of lasting and even permanent harm to the child's development. The State of New York Crime Commission in its "Study of 201 Truants in the New York City Schools" states:

> It is a striking fact, corroborated in the Crime Commission's study of men now in State's Prisons, that the criminal of today was in too many cases, the truant of yesterday. That does not mean, of course, that every child who is today a truant will become a criminal tomorrow, but that the chances are the criminal group will undoubtedly be recruited more in proportion from the truant group than from the non-truant group.[5]

Since truancy has inherent dangers, it is necessary to use every safeguard to prevent its development. No absence can be regarded as lacking significance. The legal, if preventable, absence which is permitted to pass without an adjustment may give rise to an indifference toward school attendance upon the part of parent and child. From this it is a short way to actual truancy. Making regular attendance possible for every child, therefore, means an initial step in the prevention of delinquency. Perhaps, especially in this day of widespread alarm over the question of increase in crime, one of the most important avenues through which school attendance can become a factor of social welfare is in the prevention of delinquency.

As is said by Judge Siegler of the Juvenile Court of Essex County, New Jersey:

> The real victims of the economic depression are the children. Every welfare worker, every teacher, every juvenile court judge, can bear witness to the human havoc brought by unemployment. It has created a new, and perhaps the most complex problem in social control that has ever confronted us. Only in so far as that problem is solved will the task of coping with juvenile delinquency become effective and our anxieties decreased. Society's greatest liability is the delinquent child. Countless such children yearly

[5] State of New York. *Report of the Crime Commission*, 1927. p. 285.

enter our juvenile courts. As many more never reach these courts, but as adults are brought before the criminal bench.

The Judge points out that the examples of juvenile crime, particularly robbery, which are made mention of in the daily press, strikingly portray the extremes to which it is possible for juvenile delinquency to come. They emphasize the need for intensification of a preventive program and in that preventive program the school must play a great part. To counteract the almost improper mental and social attitudes which are brought about in the family group because of the economic situation, the school can combat for the child the reaction of "the despondent outlook, the emotional tension which are the sociological forces loosened by idleness and want." It is in the school that stable mental emotional attitudes may be brought about, and here the child may be protected from the strain to which present abnormal conditions are subjecting him.

If the use of school attendance as a factor of social welfare is dependent upon the effectiveness with which all children of school age are actually required to be in school, it is no less true that its value is measured by what the school gives the child when it comes under its supervision. Much has been done in recent years in the effort toward giving the child the individualized training best suited to his needs and abilities, but there is still much to be done. Raising the age of required school attendance and better enforcement of school laws has very definitely aided this progress. In his address to the White House Conference on Child Health and Protection, F. J. Kelly stated:

> The first cardinal principle in education and training for a democratic society is that each individual child should develop to his highest possible level of attainment. It demands full recognition of the individual differences among children. Each child must be considered as a unit—mind, soul, and body. The child must be seen as a whole, sent to school as a whole, trained in school as a whole, and sent from school as a whole with the best that education can give him that he may be more adequately equipped to live abundantly in service and satisfaction.[6]

If the school accepts its obligation to the whole child, it must understand that to mean the child for twenty-four hours each day and for three hundred sixty-five days each year.

If appropriate opportunities become the ordered life of the school child, the social possibilities of the school are not only advanced but the technical matter of attendance enforcement is actually aided because the absorbed and interested child is not the truant child.

[6] From an unpublished report presented at the White House Conference on Child Health and Protection, November 22, 1930.

More and more are we coming to realize not only the need of providing adequate and suitable training for the child in school, but the social significance of the causes of the child's absence from school and the opportunity opened to the school through the fact that irregularity of attendance must give rise to inquiry, and that the subsequent contact with the child's home environment enables the school to become a factor in the child's social welfare. Irregular attendance is not a separate phase of the child's life. It is at most a factor—often a mere symptom—in a complex social or individual adjustment problem. Every attendance problem has its social implications. In a study of attendance cases referred to one office in a three-day period, of the 150 cases reported there were actually but two cases in which the absence from school could be the first consideration. In the other cases, the absence was the result of some serious difficulty which required the services of a trained worker. To enable 148 of the 150 children to attend school regularly required family adjustments. In addition to social and economic problems existing in the child's home, there were individual behavior problems requiring first the services of trained psychologists and psychiatrists to determine the proper program for the individual, and then the execution of that program by the socially trained worker.

Whether the difficulty be an economic problem, a wrong social attitude, a physical defect, or a psychological maladjustment, the school must utilize the resources of the entire community to make possible for the individual as regular school attendance as his physical condition will permit. The steps necessary to make possible school attendance for the underprivileged child frequently result in family rehabilitation, better standards of living, improved community health, lessening of delinquency, increased civic responsibility, and enriched living for many. Thus through the enforcement of school attendance one goes forward in providing that the standards which the community has in theory set up are carried out in practice for all. In connection with this phase of the school's opportunity, let me emphasize again the value of perfectly functioning school-enforcement technique. If the proper official does not know why the child is absent or, if knowing, he cannot or does not take immediate action, this avenue of the social usefulness of the school is closed. If there is delay in action, the problem is all the time becoming cumulatively more difficult. As previously indicated a prerequisite to the school's effectiveness is an adequate and properly trained staff to make the social adjustments which such a program requires.

While it may not be within the scope of my topic, I cannot refrain from pointing out that the actual attendance of all children

is imperatively demanded not only for educational purposes and prevention of delinquency but from the point of view of public economy and the efficient use of school equipment. We have (theoretically at least) accommodations for all the children required to attend school; our schools are built; the cost of physical maintenance, of heat, light, and repairs, goes on whether the plant is used to maximum capacity or not; also the teaching and the supervisory costs are constant. Every day's absence of every child represents a waste of the overhead cost. When enrolled children are out of school and when unknown numbers of children are not enrolled, there results an economic waste which no reputable business organization would tolerate. Nor should such a waste be tolerated in our school systems.

In view of the full social significance of school attendance and in recognizing that education is a fundamental social investment, effort must be made in spite of the cry for economy to permit the enlargement of the services of the school to meet the increased demands which this emergency has revealed. It is encouraging to recall the statement made by President Hoover in his congratulatory greeting to the President of the Department of Superintendence of the National Education Association, February 25, 1932:

> However the national economy may vary or whatever fiscal adjustments may need be made, the very first obligation upon the National resources is the undiminished financial support of the public schools. We cannot afford to lose any ground in education. That is neither economy nor good government.

Professional Partnerships in Education

By DAVID H. HOLBROOK[7]

Social workers are really educators, and teachers are social workers in the broad sense of those terms. Who would define these fields in mutually exclusive terms or in a way that will satisfy each reader? We tend to define broad areas of effort in terms of the ideals, technical needs, and ambitions of those engaged in the work. From this angle of approach scientific precision in defining professional fields cannot be attained, however. Recognition of partnerships, patient study of the actual content of jobs, and persistent attention to points of intersection with other services and community activities are more constructive avenues of approach.

Through the group to the individual is the method of the class-

[7] National Social Work Council, New York.

room; however, the doctor, the nurse, the psychiatrist, the attendance officer, the visiting teacher are attacking the educational problem from an opposite though not an opposing angle, namely, through individuals to groups. Their philosophies, procedures, and techniques have been mingled with other principles and habits to help form the progressive modern public school, and the contribution has been more than special professional skills. They have helped teachers to see more clearly "all of the person" in each of their pupils, that is, what the other nineteen hours of the twenty-four mean in the child's life. They have interpreted to the schools the essentials of case-work practice in other groups in the community, such as the need for thorough investigation, the length of time needed for social treatment, and the significance of the plan for the whole family in the educational progress of the child. They have opened up an entirely new approach leading toward the goal of every thoughtful teacher, the desire to teach the child and not the subject.

If these extra-professional groups sincerely desire to find satisfactory working arrangements with educators and in a long-established institution, it is exceedingly important that they diligently and effectively interpret what they are doing—why and how. This is particularly true of social case work which is a profession that is relatively new.

Some professional encumbrances weigh more heavily on the teacher than on the social worker. There is in social work, as yet, no large indigestible lump corresponding to the school curriculum with all its appendages of textbooks, quizzes, term averages, and so on. Instead there is a spirit of inquiry into the content of social work. This is a weakness as well as a strength, but it may well be shared with the schools to help develop the attitude of fundamental interest in the child. Tyrannies of routine in social case work are somehow not so obvious or paralyzing as yet. The strong teacher may have the same conception of her function in influencing the entire life of her pupils, but the bell rings inexorably on her plans and the term averages loom large in her consciousness. Real understanding of the teacher's problem and point of view is best known through actual personal experience. The visiting teacher who retains a lively appreciation of what she once struggled against in the classroom will be more helpful than one who depends on observation and imagination.

Professional partnerships in education which do not include the public are not only unsocial but apt to be temporary. What professional group in the public-school system, from its day-by-day experience, is better able to interpret education as a sound social investment than the group of visiting teachers and attendance officers?

Certification of Attendance Officers

By GLENN DRUMMOND[8]

With the adoption of the Bing Law, Ohio seemed to be on the road to recognizing that the public schools are democratic. Children from six to eighteen were placed under the guidance of school officials. It was the intent to offer all children between those ages some work in regular classes or in special and part-time classes.

Because our schools, traditionally, had been for the intellectual, for those preparing for teaching and the professions, loopholes were found and the children were forced from the schools if they were not able to follow the regular procedure. Bright spots are found here and there in Ohio where this is not true, but this condition exists generally, it is to be feared.

The Bing Law placed the children in the charge of the schools but did not draw up safeguards for means of guidance. There is, of course, the provision that each city and county school shall have an attendance officer, but it is to be noted that not even the much used expression "of good moral character" is inserted in the Law. No qualifications whatsoever are required. Paul Sloan in his study of "Present Status of County Attendance Officers in Ohio" gives some startling data: eight officers out of the 77 reporting obtained their positions by making the lowest salary bids and only 13 were high-school graduates or above, their median age being fifty-two.[9]

The old idea that the position needs police influence to keep Johnny in school is the guiding principle of those who choose these officers. No thought is given to the many causes which may be influencing Johnny's absence or to the many children for whom for various reasons the public school is now unable to care, who need guidance to prevent them from growing into unsocial citizens.

From a state point of view, little attention can now be given to the working children, to the adolescent in need of social adjustment, to the maladjusted child in home life, to the one in need of recreation, to the restless, to the retarded, to the neurotic, to the so-called unfit, and to the, unfortunately termed, delinquent.

If our state is becoming burdened with its load of those who have been unable to adjust themselves to their social environment, it surely is only good business, laying aside altruistic motives, for the state to begin the work of guiding those individuals when guidance is possible. Guidance, however, by those with no knowledge of the fac-

[8] County Superintendent, Logan County.

[9] Master's thesis on file in the library of Ohio State University, 1927. pp. 20, 41, 49.

tors which cause maladjustment, is not possible. The only solution to this problem seems to be the one suggested by the studies of Denius, Oppenheimer, Bermejo, and others: that the visiting or home teachers meet the needs of the position of attendance officer.

Ohio cannot hope, under present conditions, to substitute the visiting teacher for the attendance officer; that is a matter which only time and a changed situation can bring about. Surely it is a step in that direction to set up progressive standards and to make use of those officers who have learned much through the valuable training of experience.

New entrants could well be required to have the preparation of the elementary teacher. Our teacher supply would permit it. These new entrants could be asked to add to that training each year such as the normal-school training law of 1914 required of the teacher so that within a few years the attendance department could meet the qualifications for the visiting teacher set up by Oppenheimer.[10]

A Continuous School Census for Ohio

By ARCH O. HECK[11]

THE SCHOOL CENSUS INCLUDES those measures which are taken to determine the number of children of given ages living within the various school districts of a state—the measures sometimes called the school enumeration. The school census aims to aid in the enforcement of our compulsory school-attendance laws. If it is to do this, it must provide at all times complete and accurate information concerning every child of compulsory school age, for such data are essential information for the school attendance officer.

If the annual enumeration is to be used to enforce school attendance, it should be taken either the last week in August or during the first or second week of school in September and organized so that it may be taken expeditiously. School people, who are to use the facts of the census and who are constantly brought face to face with the problems of dealing with school children, should be interested in making the house to house canvass. Each child should be represented by a card in the census file, which should include all children under eighteen years of age if the community is to be continually brought face to face with the problem of providing for all of the children.

I should like to propose that the present state law governing the

[10] Oppenheimer, Julius John. *The Visiting Teacher Movement*, 1925. pp. 142–62.
[11] Ohio State University.

Ohio school census be repealed. In its place, I should propose that a new law be passed which would incorporate the following features:

1. Every school district, county, exempted village, and city should be required to maintain an individual card census file.
2. In order to help keep this census up to date, all parents should be required by law to report to the school principal, or to the teacher in a one-room school district, any change in residence.
3. To initiate and to correct such a census, an annual house to house canvass should be continued for the first five years and after that such a canvass should be made at five-year intervals. Data gathered in these canvasses should be used in correcting and making up to date the individual census card file.
4. These canvasses should be made by the teachers and principals of each school district under the supervision of the superintendent's office preferably Friday afternoon of the first or second week of September.
5. Each school district should be held responsible for gathering those data necessary to keeping the census card file of the district up to date. The aim of the district should be to maintain a census file which should contain a card for each child of census age living within the district.
6. There should be a supervisor of the school census in the state department of education, whose function it would be to advise the officials regarding the best devices for keeping the census current.
7. In order to "stop leaks" in census reporting, the law should require all private and parochial schools, as well as the public schools, to report to the attendance and census office.

Flint, Michigan, and Akron, Ohio, have had their teachers take the enumeration for several years past. Akron has it so organized that school can be dismissed at 2:45 in the afternoon and the entire city will be canvassed by 5:00. This program requires careful planning, but Akron has demonstrated that the plan can be worked successfully. The state school laws of five states in 1928 required that teachers make this canvass.

The changing of the date of taking the census to September is not wholly new. In 1923 Bermejo's study showed that of 334 cities 33, or 10 per cent, reported that the census was taken in September.[12] The reasons for these changes are obvious; teachers can so organize that the time needed may be reduced to the minimum, which increases its accuracy; September is logical since new data are needed at the opening of the school year and children who might otherwise be neglected for a long period are immediately brought into school.

[12] Bermejo, F. V. *The School Attendance Service in American Cities*, pp. 72–73.

Recent Developments in Human Inheritance

By LAURENCE H. SNYDER[1]

THE PAST FEW YEARS have seen changing viewpoints and new modes of attack in the study of hereditary human character. While new characters are continually being investigated as to the manner of their inheritance, and new data are being added to the knowledge of older characters, the recent trend is toward wider practical applications of this knowledge.

In the field of immunology, genetics has made rapid advances. The blood groups have been thoroughly investigated, and their mode of inheritance mapped out. From this knowledge have been constructed laws applying to the determinaton of disputed parentage and to the identification of newly born infants who may have become inadvertently mixed in hospitals. To the blood groups have been added hereditary immune agglutinogens, which double the scope of the practical application of blood factors in legal cases. In the realm of physiology recent genetic advances include the discovery of hereditary taste deficiencies, which open up an entirely new and inherently productive field of research. In the field of psychology, mental heredity is being carefully investigated by geneticists. Recent results show clearly that special abilities, such as musical, artistic, mathematical, and mechanical abilities, are inherited separately from intelligence, and may appear strongly, even in the absence of training.

Studies of various abnormalities give hope of the possibility of identifying the individual factors responsible for deaf-mutism. This would be of importance to the deaf, for it would be possible to predict the probability of normal children occurring in families where both parents are congenitally deaf, an impossible feat at present.

The establishment in recent years of nearly a dozen common unit factors in man opens up for the first time the possibility of discovering linkage relationships in man, and so of predicting the latent abnormalities, diseases, or special abilities of individual children while they are yet very young. This possibility, which bids fair to be one of the greatest contributions of genetics to human inheritance and medicine, is being actively investigated at present.

[1] Ohio State University.

The susceptibility to various diseases is undergoing active study, based largely on newer knowledge of laboratory procedures. Thus genetics is rounding out its potential contributions to knowledge.

The Educational Value of Travel

By CHARLES J. CHAMBERLAIN[2]

Some sixty years ago, in a little one-room schoolhouse in northern Ohio, I read McGuffey's readers and spelled according to his spelling book, figured according to Ray's arithmetic, studied geography, and played "ante over," baseball, crack the whip, and occasionally engaged in personal encounters which, in a small way, served the purpose of the German students' duels, developing an aggressive attitude in some and a retiring disposition in others. In studying geography, I vaguely sensed that something was pedagogically wrong. Although the word *pedagogically* had not entered my vocabulary, I had the feeling but not the vocabulary to express it. That schoolhouse faced south. Consequently, when the children placed their geographies on their desks, the north side of the maps faced south; so that the poor urchin, when he tried to imagine which way he would have to travel to reach the Gulf of Mexico, had to turn around in his seat to look at the map. It was not enough to turn the geography around, for the names were all wrong side up.

Most of us have ambition to see something outside our immediate neighborhood. About fifty-five years ago I went with a group of boys from our neighborhood on an excursion from Sullivan (near Oberlin) to Cincinnati. Some of us walked across the bridge into Covington, Kentucky. The walk across that bridge developed a Wanderlust, we had not only visited the big city of Cincinnati but we had been in another state, the state of Daniel Boone.

It was years before I visited another state, but that next trip was memorable, for it was the trip which newly married couples in my day made to Niagara Falls. We walked across the bridge, out of the United States into Canada, and then returned, a much-traveled young couple. We had seen real mountains, which before that time we had seen only in the geography and in other pictures. We had seen big rivers, with locks and barges; we had seen wide areas where no one was pitching hay, plowing corn, threshing wheat, or milking cows, for the men were down in mines or were working in mills. We had read about it, but it had never seemed real; now we could read about it and we would know it was real.

[2] University of Chicago.

You read Cable's stories of Creole life in New Orleans. The stories are interesting, and you try to picture the scenes he describes. But you never fully appreciate the stories until you have wandered through the places themselves. Last winter, while attending the meeting of the American Association for the Advancement of Science at New Orleans, I asked someone to direct me to the assembly hall. He replied, "You don't need any directions; just follow the crowd." "No," volunteered another, "if you follow that crowd, you will land in the Creole quarter." Others besides myself were familiar with the stories of Creole life and wanted to see the places for themselves.

Once in a while a botanist should travel, should go beyond the beaten path of his usual botanizing ground. The botanist of the middle and eastern states should go west. He should look at everything. You have read about Yellowstone Park and have seen splendid pictures of it, but you want to see Old Faithful and the bears for yourselves. You see colored movies of Grand Canyon, of tourists going down the Bright Angel Trail, but you should go there yourself. It is a wonderful sight, to be stored in that treasure box of memory which you open up, as you sit in your big easy-chair with your feet on the footstool.

Did you ever spend a summer at Puget Sound? There used to be a wonderful biological station at Friday Harbor on San Juan Island, a beautiful island in the Sound, in sight of the Canadian border. One of the most beautiful places in the island is appropriately called "Heaven." The trail, with beautiful ferns and trees, is steep, but at some particularly difficult place there will be a sign, "Don't Weaken," and farther on at a still harder place, another sign, "It's Worth It," and when you get to the top, you have another jewel for your treasure chest.

The great seaweeds of Puget Sound and other places on our Pacific coast are wonderful. *Nereocystis*, even when measured by American botanists with steel tape, is often 150 feet long; and when measured by European botanists, measured by sailors' yarns, they stretch out like the yarn, often reaching a thousand feet in length. Although you know which to believe, you should see them yourself: there is more satisfaction in first-hand information.

We are all interested in things which are old and things which are big; and the older and bigger, the more we are interested. King Tut got first-page publicity some years ago because his tomb, with its tables, chairs, and couches, its chariots, weapons, and ornaments, was more than three thousand years old. Expeditions are out, all over the world, searching for things which are old.

The life of any individual is rather short. Few animals reach an age of one hundred years. A turtle has been known to reach an age of 370 years (if you call that living). It probably does not make any more movements or see any more of the world than a humming bird does in a single summer.

In the search for things which are old, it is well to remember the trees. Even those who are not botanists have seen trees and have read about them. It is a liberal education in itself to know trees. The age of a tree can be determined accurately, because the growth in the spring is rapid, with large cells; while whatever growth there is during the rest of the season is slow, with small cells. This alternation of large and small cells makes what we call a ring, an annual ring, so that by counting the rings we can determine the age of the tree. Of course, there are exceptions. There is a tree which forms a ring every other year, and a tree which forms rings at irregular intervals of twenty or thirty years. When a peach tree blossoms in the autumn, the same stimulus which caused the untimely flowering makes an extra ring. But such rings do not deceive the botanist in determining the age, any more than the autumn flowering raises hopes in the onlooker of picking ripe peaches at Christmas.

The trees of our eastern and middle states do not get very big or very old. We must travel if we want to get an education in trees. There is no other place in the world where one can learn so much about trees as in our Pacific region.

Pinus balfouriana, the foxtail pine, less than 3 feet in diameter, has reached an age of 350 years. A specimen of *Pinus monticola*, the western white pine, 4 feet in diameter, was 500 years old. *Pinus ponderosa*, the western yellow pine, is often 150 feet high and 350 years old, occasionally even 200 feet high and 500 years old. *Pinus lambertiana*, the sugar pine, is still larger, often 160 feet tall and 4 feet in diameter, and sometimes 180 feet tall and 7 feet in diameter. One immense specimen in California is 200 feet tall, 11 feet in diameter, and is probably 600 years old; 300 years is a common age for this pine.

It is worth making a trip to our western region to see the larches. *Larix occidentalis*, the western larch, 100 to 180 feet high and 3 to 4 feet in diameter, is 300 to 500 years old; and some exceptionally large specimens have reached the honorable age of 700 years. *Larix lyallii*, the alpine larch, is not very large, only 30 to 40 feet high and 1 to 2 feet in diameter, but such trees often reach an age of 400 to 600 years. Some specimens are known to be 700 years old.

The spruces also are worth studying. *Picea Engelmanni*, the

Engelmann spruce, is often 100 feet high and 3 feet in diameter. Trees less than 2 feet in diameter have reached an age of 460 years; but the age of the largest trees has not been determined. This tree often grows in rocky, wind-swept places, and here stunted specimens, no larger than your arm, have reached an age of 150 to 200 years. *Picea sitchensis*, the Sitka spruce, is larger, 160 to 180 feet high and 8 to 10 feet in diameter, with an age of 400 to 750 years. Some of the largest specimens are 850 years old.

The most important lumber tree of the West is *Pseudotsuga taxifolia*, the Douglas fir. It is often 180 to 190 feet high and 3 to 6 feet in diameter, with some trees over 200 feet high and 10 feet in diameter. A tree 4 feet in diameter will be about 200 years old; 8 feet in diameter, 400 years old.

The most famous of all big plants are the Big Trees of California, the *Sequoias*, named after a remarkable Indian chief who invented a phonetic alphabet and taught his tribe to read and write. For obvious reasons, these big trees were not included in the original Seven Wonders of the World; but if travel had not been so restricted in those provincial days, the Sequoias would have been at the top of the list. There are two species, *Sequoia sempervirens*, the redwood, with its greatest display north of San Francisco; and the *Sequoia gigantea*, with its display south of San Francisco.

The redwood often grows in dense stands, with average large trees 300 feet high, 15 feet in diameter, and a thousand years old. Exceptional specimens are 350 feet high, 20 feet in diameter and 1,300 years old.

The other species does not grow in dense stands, but in scattered groups, connected by straggling specimens. It is not as tall as the redwood, but is more massive and is entitled to its name, the "big tree." The larger trees are from 250 to 280 feet high, with occasional individuals 300 to 330 feet high. The diameter ranges from 12 to 33 feet. In the mammoth grove at Calaveras a house has been built on the top of a stump, the floor, 27 feet in diameter, being the planed-off top of the stump. Counts by competent scientists have shown more than 4,000 rings. In a favorable year with abundant rainfall, there is a strong ring; while in a dry year, the ring is small. Some even believe that the seven years of plenty, followed by seven years of famine, while Joseph was governor of Egypt, are recorded in the rings of the "big trees."

Many of the larger trees have their own names: for example, some are named after states, the Illinois Tree, the Wisconsin Tree, and the Vermont Tree; others are named after prominent people,

the General Sherman Tree, and the General Grant Tree; and it is fitting that some of them should be named after botanists, the Asa Gray Tree and the John Torrey Tree.

Recently, an attempt has been made to find out which might be the biggest of the big trees. From the standpoint of the lumberman, the General Sherman is the largest, for it would make 50,000 feet of lumber; the General Grant Tree would make 45,000 feet, and the Hart Tree, 34,000 feet. But the Hart Tree is the tallest, 277 feet high; the General Sherman, 5 feet shorter; and the General Grant, 10 feet shorter. The General Grant has the largest diameter, 33 feet; while the diameter of the General Sherman is 30 feet; and that of the Hart Tree, 26 feet. Which is the biggest? It is like deciding a beauty contest. One girl has the most beautiful hair; another the most beautiful teeth; and another, the most beautiful figure. Which one gets the apple? And which tree gets the medal?

Perhaps none of them; for we have overlooked the Big Tree of Tule, about 250 miles south of the old city of Mexico. This tree is 50 feet in diameter where it begins to branch, not measured at a flaring base. It is a Montezuma cypress, a giant among its kind, like Goliath. How old is this gigantic tree? I studied it and made an estimate based upon the rings of a specimen about 4 feet in diameter. The most conservative estimate would not give it less than 5,000 years. Professor Land thinks it is 7,000 years old, or even older.

While the pyramids of Egypt were being built, while Achilles was dragging the dead body of Hector around the walls of Troy, and while Moses was leading the children of Israel out of the Wilderness, it was a big tree; when Rome was founded, it had already passed the usual size of its species; when Socrates was drinking the hemlock, it must have been in the legendary stage; and in the days of King Arthur and his table round, pious pilgrims came to worship this awe-inspiring wonder of nature as they still come today. Even a blasé university professor cannot suppress a feeling of awe as he looks upon the oldest living thing in the world.

One can get a second-hand knowledge of trees by reading; some can even lecture about them as if they had seen them; but to get that inward satisfaction one must travel and experience that feeling of awe and veneration which even the best books and pictures are powerless to inspire. My own research, for the past thirty years, has dealt, principally, with a group of plants many of which could hardly be called trees. Although they were abundant in geological times and widely distributed, they are now confined to tropical and sub-tropical regions; and even there, occur in scattered groups, so that one must

travel far to make any comprehensive study. Naturally, my botanical education has been improved by the travels necessitated by the nature of my research.

This group of plants is called cycads. The most familiar representative is the sago palm, usually found in greenhouses. Its dark, fernlike leaves, inherited from its fern ancestors, are in great demand for funeral wreaths and on Palm Sunday. This form and many others are arborescent.

In studying this group, it has been my good fortune to make four trips, far down into the Mexican tropics. I suppose most of us, when we think of Mexico, picture a barren desert, with cactus, yucca, and agave as the dominant plants; but when you get sixty miles south of Vera Cruz, you get into a tropical jungle which can hardly be described—monkeys screaming as they almost fly through the trees over your head; parrots, with coarse squawks and bright green and red feathers; deer as abundant as in the Pennsylvania mountains; big snakes, with skins all ready to be made into slippers and ladies' handbags; here and there a jaguar, the *tigre grande*, so fed up with lesser game that he is not dangerous; butterflies with gorgeous blue wings; morning-glory vines climbing the trees and clambering over everything; big black beetles which would scare anyone but a zoölogist; ants which scare anyone; and ticks, which get under your skin in more ways than one. But travel is educating you, and you can educate yourself to remember the glories of the tropics and to forget the ticks.

Here I found cycads. And how different from cycads in the greenhouse! On account of the permanent financial depression in educated circles, you can bring back only small specimens; and when you get them back, there can be only a weak imitation of their natural surroundings, even in the cycad room at the University of Chicago.

The people are an education, too. Within five days' travel from Chicago, you can see women cutting wheat with a sickle, and see two women grinding it at the mill. They are still in Bible times in Tlascala, except that the men are equipped with rifles and are so well trained that they have not had to fight since they conquered Mexico for Cortez. Going as I did with the credentials of a great University, I came into contact with those high up in the government. One of these, Governor Dehesa, of the state of Vera Cruz, became a close friend, and to his kindness and interest we owe the beginning of the splendid collection of cycads at the University of Chicago.

When I was young, one had to travel to Germany to get a botanical education. A cytologist had to go to Bonn and study with

Strasburger; so I went to Bonn. He was a great man, a great teacher, as well as a wonderful investigator. The year in Bonn was worth all it cost. But some things, not botanical, may stay with me longer than the botany: the bridge across the Rhine built by Caesar, the Drachenfels, with the cave where Siegfried killed the dragon. You look around to see whether there is still any blood on the walls of the cave. If you do not find any, you can get a bottle of *Drachenblut* near by. It is quite refreshing on a warm day.

Now I am planning to educate myself further by traveling, over ground I partly tramped before, New Zealand, Australia, and Africa. A study of my notes and negatives taken during my previous trip showed that the travel had been too hasty and had left my education in the field of behavior of cycads incomplete. So, this time, I hope to give a course of lectures in the Imperial University of Tokyo, and thus finance a good cycad trip. I shall visit Formosa, Philippines, Sumatra, Java, Borneo, Celebes, New Guinea, Solomon Islands, New Caledonia, Norfolk Island, and then go again over my former trail through New Zealand, Australia, and Africa.

During the twenty years since that former trip, I have kept in contact with many whom I met at various places, and genuine friendships have developed through long-distance correspondence. I have more invitations to visit than I could respond to in a whole year. The pleasantest advantages of travel are the acquaintances and friendships one establishes in far-away places.

In going back from Cape Town, South Africa, to London, instead of sailing by way of the Canary Islands, I hope to try the new road from the Cape to Cairo. Thus, one will see Victoria Falls, Thebes, Memphis, the pyramids of Egypt, and Cairo. Then Athens will be on the way, with the Parthenon, Mars Hill, and all those works of art we read about, going back to the time of Phidias, Pericles, and Socrates. It will not be far to Troy where wrathful Achilles, in his chariot, whipped his horses as he dragged the dead body of Hector about the walls:

> Achilles' wrath to Greece the direful spring
> Of woes unnumber'd, heavenly goddess, sing!
> That wrath which hurl'd to Pluto's gloomy reign
> The souls of mighty chiefs untimely slain;
> Whose limbs unburied on the naked shore,
> Devouring dogs and hungry vultures tore:
> Since great Achilles and Atrides strove,
> Such was the sovereign doom, and such the wrath of Jove.[3]

[3] Pope, Alexander. *The Iliad of Homer.* New York: American Book Exchange, 1880. pp. 25–26.

Why not travel? Some may complain that there is a financial reason. One of my friends at the University of Chicago once told me he wished he could travel and see the world as I had, but he could not afford it. I asked him how much he spent for tobacco. He had his tobacco bill for a year at the club looked up, and found that, at that rate, he had spent more for tobacco than I had spent for two trips to Cuba, four trips to Mexico, and the long trip from Chicago to Vancouver, Sandwich Islands, Fiji Islands, New Zealand, Australia, South Africa, Canary Islands, London, New York, and Chicago.

In these days a teacher of botany in a big university must travel. It is not enough that he should know the plants that are on his own campus or within easy botanizing distance of his laboratory. If in an inland university, he should visit seaside stations, stopping at other universities, looking at their equipment, studying their methods, and getting acquainted with the teaching staff. In these days, it is not necessary nor even desirable that the young man who has just received his Bachelor's degree should go abroad to study, for in practically every phase of botany there is better instruction in the United States. But, after he has taken his Doctor's degree, has taught a while, and published enough to make his name known, a short trip abroad, stopping a few days at each of the great laboratories of Great Britain and Europe, examining their equipment, and getting acquainted with the men he has known only by correspondence, will be of immense value. The expense of such a trip would come well under a thousand dollars.

For $200 you can make a trip from Columbus, west through the great cactus regions and the Grand Canyon of Arizona, to San Diego (from which a single day's drive would take you across the border to Tia Juana and Agua Caliente); up through the orange country, with its old missions; through the parks of big trees, the Yosemite, and Monterey with its cypresses and pines; to San Francisco, from which short drives take you to Berkeley and Stanford; up north along the Redwood highway and on to Puget Sound; and back by way of the Yellowstone Park. If four or five go in a car the expense is much less.

Perhaps a botanist should not speak for other subjects; but, in my opinion, a university professor of American history should see the country from east to west and from north to south. He should see and talk with those who raise cotton, those who raise wheat, those who raise oranges, figs, grapes, potatoes, melons, and other things. He should visit the mines, the mills, and the factories. He should know how employers and employees live. He should see and hear

Congress in session. He should attend council meetings, even if aldermen are not of high grade. He should spend some time attending court. The one whose history is all in books is as bad as the botanist who never leaves his home town.

Every summer tours of England and Europe are organized to fit every teacher's time and pocketbook. If he signs up with the right agency, well-conducted travel will give him more education in the short summer vacation than any university could give in a year.

Even if one is neither a botanist nor a historian, why not travel for the joy of seeing and knowing things first hand? When one becomes too old and feeble to travel, he can sit down in an easy-chair with his feet on a footstool, shut his eyes, open the treasure box of memory, and see again those far-away places, meet again old friends, and be glad that, while there was yet time, he had laid up a fortune for his old age.

The School a State Institution

By R. E. OFFENHAUER[1]

THE FUNCTIONING OF A REPUBLICAN FORM of government is peculiarly consistent with the ideals and the abilities of those governed. Our political fathers appreciated this fact and the provision that "schools and the means of education should be forever encouraged" in the Northwest Territory has in an unusual way become the slogan of the nation. The schools of the nation are many and widespread, and any impartial student of our educational history must admit that they have functioned effectively. They have done a great work.

It has been their task for the most part to educate for a life that was comparatively simple. This task has recently been changed, since the complexity of life has increased rather suddenly. Forces in the realm of the physical sciences have been harnessed by a school-quickened population to an industrial machine with amazing results. Unfortunately, a like progress was not made in our social world. This latter world still appears sluggish and sleepy. Our economic life is interdependent, while our political life struggles losingly for a continued independence. Formerly, we faced a scarcity of goods, now we are troubled with a surplus. The world has grown smaller and has been largely urbanized. The sturdy individualism of the pioneer days is still with us even though more co-operation and large group action is the needed order of the day. Personal relationships have undergone profound changes.

To meet these new conditions, fundamental changes in our whole social structure are demanded. Temporarily we cannot criticize too severely the critic who brands civilization a failure. The schools may blame the banker and the politician for the *impasse*, but the schools trained the banker and the politician. The fact that present-day bankers, politicians, and industrialists were trained some time ago leads us to the unpleasant conclusion that the schools then lacked vision. The schools of a little while ago too much admired the ideal of immediacy advanced by the business world and following this admiration educated for a surface skimming and a status quo of the great social undercurrents.

[1] Superintendent of Schools, Lima.

Roundly, we have a million teachers in the United States. It is the business of this group to perpetuate the state—to promote business, political idealism, sound economic thinking, wholesome personal relationships, and so forth. Our patriotism must be long-sighted. Our loyalties must be multiplied and at the same time unified to the truth. We need prophets. It is ours both to be prophets and to make them.

A million teachers can educate and direct the thinking of one hundred twenty million. This is our task. If, however, we are to do this greater service under these new conditions we will find it necessary to win an ever larger place in the social structure and to bring to it a preparation that will not neglect or give less place to the small problems but will give more attention to those larger ones which concern the individual, the social unit, and the world at large. Added to this must be a clearer vision and an effectiveness in teaching that will produce attitudes sensitive to the higher purposes of our social and political efforts and the well-being of the individual.

Implications in a Socialized Program

By PAUL C. STETSON[2]

Such distinguished educational leaders as Mr. Judd have repeatedly called our attention to the fact that the United States is the only country which deliberately has set about to develop a free, compulsory system of popular education. To the theory that such a system of education was essential, desirable, and financially within the means of the American people, all of us subscribed unreservedly until economic conditions brought us up with a sharp turn. It is doubtful whether many of us understood the far-reaching consequences financially and socially of this experiment which we so blithely started and in which we so ardently believed.

We subscribed heartily to the theory that to be effective a system of popular education must be made compulsory. So firmly convinced were we of this fact that for fifteen years we have been active proponents of legislation which constantly has increased the age limits of attendance at our public schools.

The Bing Law, passed in Ohio a dozen or more years ago, is a splendid illustration of the extremes to which such legislation, promoted in part by school people, went. Unless the terms of the law have been modified since I was familiar with them, compulsory

[2] Superintendent of Schools, Indianapolis, Indiana.

attendance in Ohio is required of students until they are eighteen years of age, with certain exemptions, unless between the ages of sixteen and eighteen they are able to secure certain types of work.

In Indiana the age-limit is sixteen years, with certain exemptions. The average age of a pupil leaving the eighth grade is about fourteen years. Thus through legislation we have made at least the first two years, and in the case of many pupils, the entire senior high-school course, a period in which the compulsory attendance law operates.

Several administrative problems caused in part by compulsory education and child-labor laws, not noticed during a more prosperous period, are today forcing themselves upon our attention. The first one is the necessity for providing means for indigent pupils to continue their school careers during this compulsory period. It is clear that the state cannot say to a parent, "You must send your child to school for a definite number of years," without assuming the obligation that the state will, in cases of recognized need, make it possible for that child to attend school by providing him with clothing, books, and food. When financial conditions are stable and the number of unemployed is relatively small, a major burden is not placed upon the finances of any board of education, but when, because of unemployment, there is a dislocation of the economic and social status of a large body of our population, the demand for aid increases to the extent that it does become a major problem.

In the city of Indianapolis, with which I am at this time most familiar, the Department of Social Service spent for aid in 1928 $21,994; in 1931 the same department spent $50,240; and for the current year will probably spend $64,895. This tremendous increase in expenditures for this service, which cannot be evaded legally or morally, so long as we compel attendance at schools, puts a drain upon our resources which was not anticipated three or four years ago.

It is conceivable, should the economic condition remain as it is or become more unsettled, that we shall be faced with a school-aid problem of such proportions that we shall have to forego or curtail greatly educational services which are essential in order to meet our obligations implied in the compulsory education law.

Second, the compulsory education law has been one of the contributing factors to the rising cost of education. It is a truism to say that while the increase in cost in elementary education has not been heavy, the increasing cost of high-school education is a serious problem. This is owing in part to the fact that, through our system of organization, high-school education is normally more expensive;

salary schedules are higher; equipment more expensive; buildings more elaborate; and classes smaller. The rapid increase in high-school population, one of the contributing factors to which is our compulsory education law, has meant more teachers, more equipment, and more buildings. Our high-school organizations in general were not and are not now adequately prepared to meet this increased demand. Consequently, thousands of students not at all desirous of continuing their education and for whom we have nothing of great value are retained in the ninth and tenth years.

The experience of the superintendent of schools at Asbury Park, who peremptorily dismissed a large number of high-school students who were problem cases and who were receiving apparently nothing of value from continuance in school, received national attention and widespread editorial comment because the experience of that city is duplicated in every other city of any size in the United States. It is a pedagogical axiom that interest in work is the mainspring of effective classroom management. High schools, largely academic in character, with the emphasis still, after all these years of agitation, upon college-entrance requirements, cannot interest the pupil who is in school simply because the law compels him to be there. Such a situation may be doing the individual student harm rather than benefit.

It is a serious question to what extent a community should be asked to tax itself for the higher education of those who cannot or do not profit from it. Unless the compulsory education laws are altered to give a larger degree of choice on the part of both administrators and parents, it is obvious that the materials of instruction and teaching techniques in our high schools must undergo radical revision. Certainly, in view of the mounting cost of education and the financial difficulties with which every community is faced, the present situation should not go unnoticed and uncorrected. We are all of us quite aware that to lower the limits within which the compulsory education law operates would create another community problem because thousands of young people would immediately come into competition for positions which are badly needed by adults.

It is far easier to raise questions than it is to answer them. Two courses, or a combination of both, seem to be indicated: first, there must be a revision of our compulsory education laws which will give to administrators a larger degree of choice in the enforcement of the compulsory education law in the upper age-limits and a revision of our high-school administrative procedures which will recognize the changed social composition of our high-school population. Recent

studies have shown that, while the need for the latter has been recognized for years, nothing more than a superficial attempt has been made to put it into effect.

Second, there must be a consideration of the extent to which the public schools should become a social agency and should attempt to meet the varying and multifarious needs of all kinds and conditions of pupils. During the last fifteen years schools in many cities have greatly expanded their fields of activity; we find in many of our cities some or all of the following special classes not contemplated when our public-school system was established: classes for children who are crippled, who have defective speech, defective hearing, defective eyesight; who are subnormal or supernormal mentally; who are undernourished; who are threatened with tuberculosis; and who are oral deaf. Many other classes for children who depart from the normal are to be found in our cities. These classes require not only teachers specially trained, frequently on a higher salary level, but they require expensive equipment, specially designed rooms or buildings, transportation by bus, taxi, or street car, and supervisors with the attendant expense of supervision. In general they add appreciably to the cost of public education. Certainly every type of special work mentioned and others should be included in a well-rounded school program and should be continued even during periods of economic stress, but each one of them is a contributing factor to our present unhappy situation.

The third implication of widespread social significance is our program of vocational education. Because they have been stimulated, directed, and controlled in large measure by the Federal Board of Vocational Education, it is difficult to find a community which does not make a considerable appropriation for this type of work. Theoretically, the defense of a program of vocational education is an easy one to make. As administrators we have accepted without question the dictum that a community and a state should offer a comprehensive program of vocational training to all of its children during the day and to its adults in the evening. It is a common observation that such classes are small; that under the supervision of the Federal Board they are selective in personnel; that the teachers are frequently on a higher salary schedule; that supplies, equipment, and buildings are expensive. How much the training in vocational lines has contributed to the present employment situation one cannot say. We do know that trades which we thought were established and for which, with calm assurance, we prepared our boys and girls are rapidly becoming obsolete. We had considered the vocational world as static. We know now that it is in a condition of great change; that

occupations for which we were training boys a few years ago have become either obsolete or non-existent, because of modern inventions.

Two great advances must be credited to administrators in the development of the traditional public-school program during the last twenty years. The first is the rapid growth and development of the junior high-school system. Those of us who have been intimately connected with that movement since its inception have been astounded at the rapidity with which it has become an accepted part of school organization. The city without a junior high-school building is unique. The city with a distinctive course of study and methods of teaching in the junior high school is equally distinctive. It cannot be denied by one who studies the question but that it is far more expensive to incorporate into an organization the junior high-school plan than to maintain the traditional eight-four type of organization. That expense is justified to the extent that we reorganize our materials of instruction and our teaching techniques to gain the full benefit from the junior high school. Failure to do this is the most conspicuous mistake we have made. Only by so doing can we justify the added expense.

The suggestion here is not to be construed as a criticism of present methods of procedure, but rather as expressing the consensus of many that we must justify the added expense to our school systems of the junior high-school plan by thoroughly reorganizing it so that it may fulfill its purpose.

The final suggestion is that the reorganization of our school system, begun when junior high schools were started, should be completed with a careful study of the need for change in our administrative organization in Grades I to VI, and the proper way in which to do it. Historically, the graded school came as a protest against an unscientifically balanced classroom. It is perfectly obvious that the old ungraded country school, however famed in song and story, would not be at all adapted to present-day needs. Whether in our reaction we have formalized our organization to such an extent that it has in part defeated its own ends is a question for serious thought. Rigid classification into grades or half-grades is the rule in every city. Rare is the city in which actual elasticity in the administration of schools is possible. Individual adjustments to be sure are made, but, in the main, the pupils are caught in an inflexible educational machine. Protest against that inflexibility was revealed when cities began to adopt the plan of semiannual promotion. That plan has many advantages over the annual plan and one great disadvantage. It is

undoubtedly more expensive. Entering classes are smaller and more classrooms and teachers are needed with the result that per-capita costs mount.

The 1931 Yearbook of the Department of Superintendence indicated clearly that our educational machinery is breaking down at a critical point, the rate of promotion. This being true, something must be radically wrong with our administrative machinery and with our courses of study. The evidence for the need of a radical reorganization is there in this yearbook for all to read.

The suggestion is that we should consider the possibilities of a radical reorganization of our school program, that we abolish our marking scheme built upon the idea, the fallacy of which is revealed by reliable statistical evidence in the 1931 Yearbook, that it is possible to determine just when each child will be prepared to take the next additional step in his educational career; we should substitute therefor a plan of organization which will in effect divide the first six years into two divisions, the primary and the intermediate divisions; thus completing the organization started when our secondary-school program was divided into two units of three years each. The new plan would comprehend a school system of four divisions, primary, intermediate, junior high, and senior high school. Admission to and promotion within the first two divisions would be based upon the social, mental, and chronological maturity of each individual child. The materials of instruction would be radically altered to meet the new needs, and the techniques of teaching would involve some form of individualized instruction.

One should say in conclusion that the public schools of this country are weathering the present financial storm in such splendid shape that it is a credit to boards of education, administrators, and teachers. The lessons, however, which we have been forced to learn we will, if we are wise, apply. An evaluation of the advantages and disadvantages of socialized legislation as evidenced by our compulsory education and child-labor laws; the seeming futility of our work in vocational education and the necessity for a general overhauling not only of our methods of procedure, but of our basic philosophy in regard to that work; the need for a continued revision of our junior high schools in order that they better may fulfill their functions; and a study of the possibilities involved in a radical reorganization in the administration of our entire school system are not evidences of any lack of faith in our public-school system, of the need for its continuance, but rather are a recognition of the fact that changed times and conditions make new methods of procedure as essential to public education administration as to industry and commerce.

The Superintendent and His Community

By F. M. SHELTON[3]

ALL SUPERINTENDENTS ARE ANXIOUS to be successful. In this respect they are not different from other people. Sooner or later the community in which the superintendent works passes judgment upon him and his work, and usually this judgment is fairly accurate. Whatever the decision may be that is reached by the majority of the people, it is of great moment to the superintendent. His continued usefulness in the community and his professional future there or elsewhere depend largely upon it. In this discussion let us think of a superintendent who is recognized by those with whom and among whom he works as an educational leader worthy of their support and confidence.

In the first place he must know his job and be accepted by his teachers, his board, and the patrons as a capable school man. The confidence and support of his principals, supervisors, and teachers will do more to make or break a superintendent in a community than any other single factor. Their loyalty will depend upon his fairness, sympathy, helpfulness, and educational leadership. If each of his coworkers is a booster wherever he has contacts, both in and out of the school, the ground will be prepared for the approval and support by the people of the district for the school program.

When a person accepts the superintendency of schools in a community, he not only becomes the director of the school program; but, because of his position, preparation, and experience, he is looked to as one of the leaders in all worthy community activities. This leadership gives him an unexcelled opportunity to place himself and the schools before the people in an effective way and yet not obtrusively.

Good schools are the first requisite: they are expected; they are the superintendent's best publicity. He cannot confine his efforts entirely to this phase of his work, however. Unless the patrons come to know him and understand what is being done in the schools, something of the aims and purposes of his program, he may lose that leadership and fail where a man less capable may be able to succeed.

School policies belong to the public. The management of the schools, that is, the carrying out of these policies, belongs to the board and the school executive. With the proper community contacts, however, the superintendent may educate the people to formulate and accept desirable and progressive school policies. Wherever there is understanding, there is intelligent support and co-operation.

[3] Superintendent of Schools, Springfield.

The public should be kept informed at all times as to what the schools are doing. Much of this information can be given through the press, but not all. Public relations are much larger than newspaper publicity. School papers should be encouraged. Their preparation and publication furnish an excellent activity for the pupils and afford an important interpretation of the schools to the public.

The superintendent should be a member of many of the civic organizations in the community. He should have wide contacts and frequently should speak before representative groups. He should encourage his co-workers to become members of luncheon and other community clubs. The members of these clubs are going to talk about the schools and school people should be present to guide and at times lead in these discussions. The school people, including the superintendent, will be educated by these clubs. School people have no monopoly on education. If such contacts and relations are established and maintained, the superintendent will always have a sympathetic responsive hearing for any school need and policy.

The Superintendent and School Reorganization

By CHARLES H. JUDD[4]

No one who has observed the changes which have been taking place in the educational institutions of the United States during the last quarter of a century can have the slightest doubt that these changes constitute a fundamental reconstruction of the whole plan of American education. Indeed, one is justified in going further and asserting that there has been a complete readjustment of the social system of this country with respect to the relation of young people to community life. The changes in education are merely parts or aspects of the general reconstruction of the social order. Briefly summarized, the new conditions in society and in the educational system can be stated in the following terms. Society is able, because of increased economic resources, to extend the period of the education of youth. Industry has grown so complex and so highly mechanized that all superior positions, and many of the inferior positions, require a high degree of training. Competition for the superior positions has become intense. Finally it has come to pass that industry and commerce do not want young people as they formerly did.

The educational reorganizations which are symptoms of these social changes are the increase in the period of compulsory school

[4] University of Chicago.

attendance, the appearance of junior high schools and public junior colleges, the great increases in school and college populations, and the increase in costs of maintaining the educational institutions of the country. It is not the purpose of this paper to consider in any detail the causes or the general consequences of the changes mentioned. The one specific problem which is to be discussed here is the problem of the place and function of the school superintendent in the new educational order.

There can be no doubt that the school superintendent has been forced in recent years to perform duties which were unknown to the superintendents of a half-century ago. For example, the superintendent of today has to decide how far he will go in using standard tests in order that he may determine the efficiency of his school system. Tests are the products of the last twenty-five years, but they are so generally accepted as supervisory instruments that every superintendent has to know something about them.

The modern superintendent has to deal with the curriculum far more than did his predecessor. In former times the curriculum was simple and the textbooks were sufficiently uniform so that the superintendent had no serious problem in deciding what the program of instruction in his schools should be. Today there is a generally recognized necessity of adapting instruction to local conditions. There is a demand for the exercise of the highest intelligence in determining how to arrange the curriculums of such units of the system as the junior high school and even of the elementary grades. Wisdom is required to decide how to classify pupils so that the curriculum will meet the needs of slow and accelerated groups.

The present-day superintendent is conscious of a whole new series of personnel problems which he must solve. He cannot select his teachers or his principal, as was formerly done, on the basis of intimate personal acquaintance. He must take into account training and achievement, and these must be attested by objective evidences which can be properly evaluated only on the basis of broad experience.

The new insights required of the superintendent of our times are making it increasingly difficult for an untrained individual to discharge the duties of the superintendency. It has come to pass, therefore, that many of our institutions of higher education have organized courses in which prospective superintendents and superintendents who wish to increase the breadth of their professional horizons may study the principles of school administration and be trained in the new methods of performing the duties of the superintendency.

It was natural enough that the early courses in school administration should deal with specific problems of administration and should

reflect the experience of the men who had successfully filled the position of superintendent. It was also natural that these early courses should be quite explicit in stating how school systems should be managed. We cannot be too appreciative of the service which the early courses in administration did by way of giving tone and character to the superintendents of this country.

The time has come, I believe, when a new demand has arisen because of the new relation of education to the social order. By way of illustration, let me comment on one of the pressing problems of the present time. What should a superintendent know about public finance? Note that I am not asking: What should the superintendent know about school accounting or about school budgeting? I am asking about a much broader matter. School finance is related to society's effort to provide itself with police protection and with good roads. The revenue which can be derived from taxation is limited and must be distributed in such a way as to maintain some kind of proper balance between the various types of activities which society undertakes for the benefit of its members. The school superintendent who is so much a specialist that he has no intelligent view of all social needs is not a competent head of the school system.

It is quite certain that, in the past, superintendents have sometimes thought that their duties were to the schools and to the schools only. They have labored valiantly for increased appropriations, for increases in school equipment, and for larger salaries for teachers. They have sometimes taken the position that it would not be proper for them to participate in political discussions of the broader type. They have urged that schools should be taken out of politics and that school boards should be absolutely independent of all other governmental agencies.

The unfortunate result of this separatist policy has been that ignorance rather than wisdom has prevailed in many community decisions vitally affecting schools. The distribution of public funds has been in the hands of those who have understanding of concrete needs, such as the need for good roads, but have failed to understand the more abstract needs of society, such as the need for good schools.

What has been said about finance could be said with slight change in phraseology with reference to industrial education and with reference to other forms of curriculum organization. Much the same could be said with regard to school architecture and with regard to the selection and training of teachers.

I dare say, by this time, you are prepared for the conclusion that the superintendents of schools of this country need to be highly trained

in economics, sociology, political science, and in all the subjects taught in the schools. You will be willing to grant that in theory the superintendent should be a superman of large dimensions. You would, I dare say, be prepared to have me defend the thesis that this superman should draw a supersalary and be intrusted with general supervisory control over all aspects of community life.

I am indeed enthusiastic about the attainment of any of these desirable superachievements that it may be possible to reach from time to time and in special cases. I am much more concerned, however, with contributing to a practical program which has some promise of realization. I understand from long experience that the administrator must often make decisions for which adequate background in scientifically established fact is lacking, and that one human mind is incapable of complete mastery of all the sciences and arts.

My observation of school administrators has led me to believe that there are two limitations of this group of public officials. One is their ignorance of social science, and the other is their isolation. I have commented, perhaps, with sufficient detail upon the necessity of broader knowledge of social problems. I turn to the second point —isolation. I know of no officer in the public service who is so cut off from proper association with his fellows as is the school administrator. The superintendent of a city-school system is surrounded by teachers who make insistent demands upon him, and by citizens who are quite as insistent but wholly different in their demands.

The isolation to which I refer is especially impressive when the superintendent is under attack. It makes no difference how ill-founded the attack may be, the superintendent has no competent supporters; he is left to fight his own battles with the prospect of defeat which always overwhelms the lone individual. I have known cases in which the Department of Superintendence itself was unable to assist one of its members who was in need of help and amply deserving of all the support which could be given him. I believe that it is possible to overcome both of the limitations from which superintendents suffer by a form of organization which is so desirable that I recommend it not only on the grounds indicated but for other reasons as well.

I think of the possibility of organizing comparatively small groups of superintendents, say ten or fifteen, into working units which will meet once a month and develop ideas appropriate to the sections which they serve. Such groups could achieve many highly desirable results. Suppose, for example, that the financing of schools continues to be a difficult problem, as it is quite likely to be for years to come; such a group could study the problem as it appears in a group of

comparatively homogeneous communities. The group might appoint one or more of its members to look into the tax laws of the state. It might appoint others to canvass the methods adopted in other sections of the country to effect retrenchments. It could appoint others to study the comparative costs of other public services, such as policing and road construction. Each member of the group would profit by the labors of his fellows and would greatly extend the breadth of his understanding of his own special problems.

In like fashion, the group might attack the problems of curriculum revision. I do not understand why there has been so little co-operation between school systems in curriculum revision. Work which might have served many communities has been done over and over again at isolated centers. Even the publications of various school systems are so much alike that one finds it difficult to justify the expensive use of paper in issuing some of the curriculum studies which have recently been compiled by school systems.

Meetings of such groups as I have suggested would furnish opportunities for informal co-operation as well as for reports on studies. These informal co-operations would often help superintendents to solve problems which isolated individuals find it almost impossible to solve wisely. There would also result from close association a type of mutual support in emergencies which is now almost entirely lacking.

I am making a plea for a type of co-operation which differs altogether from the rigid pooling of experience which was characteristic of our earlier courses in school administration. As I have said, the older instruction in administration was dogmatic. Young superintendents were given formulas and accepted modes of procedure. They seldom received in the early courses the stimulation to study problems and seek new solutions.

A striking illustration of the inflexibility of early courses in administration appeared in the so-called "age-grade tables" which were published in many superintendents' reports a few years ago. These tables revealed some shocking facts about retardation, but apparently very little was done to correct retardation. The publication of tables was widely accepted as indicating that the superintendent knew the latest devices offered by the science of education to school administration. The age-grade tables have disappeared almost entirely. They are comparatively useless in the form in which they first appeared. Their usefulness would have been greater if a few administrators had sat down together and asked pertinent questions about their meaning.

It is my judgment that superintendents must become students of school problems in a new sense of the word "student." They must

recognize that no one knows how schools should be conducted. There is so much readjustment going on in society in general, in the support of schools, in the training of teachers, in the curriculum, in the attitudes and outlooks of pupils, that school administration must constantly move forward or it will suffer the fate which always comes to dogmatic conservatism.

Superintendents cannot, in my opinion, shift responsibility for studies of their problems to a few professional students of school administration. The special investigators in this field can contribute much to the fundamental understandings which are needed if administrative problems are to be solved, but, in the last analysis, administration must always take into account local conditions and must adapt general principles to special conditions.

I do not think that superintendents can meet their obligations by attempting to assign them to teachers. I hear some speakers say that teachers should make the school curriculum. It is my observation that teachers require leaders if they are to work effectively. The teacher is of necessity limited in his or her views of the school system. The superintendent should have an overview which the teacher cannot gain.

I do not think that the superintendents of this country can leave to state legislatures or to city governments the determination of policies or the solution of problems of support. Now and then someone defends the thesis that the people through their representatives will decide how much is to be spent on education. The fact is that the people have to be informed about their needs. They do not know how much education or what kind of education their children ought to have. Someone must educate the people of the community.

It would be possible to go on indefinitely, pointing out the considerations which tend to magnify the superintendent's office as one which ought to carry the chief load in this period of educational reconstruction.

The main point in this discussion is, however, not the emphasis on what the superintendent ought to do, but on co-operation as the only possible method by which educational leaders can accomplish their tasks. In earlier years, when the curriculum was fixed and the school was chiefly on the elementary level, administrators were managers. Today, when large social problems demanding wisdom are arising, management must be subordinated to leadership in reorganization. The superintendent who tries to conduct schools on the basis of personal intuitions and on the pattern of past experience will not be efficient. A new day has come, and this new day calls for a new definition of the superintendent's duties and performances.

Emotional Development and Adjustment

By JOHN E. ANDERSON[1]

ALTHOUGH OUR EMOTIONS FURNISH US with our most exciting and interesting experiences and are of outstanding significance in determining our adjustment to persons in the world about us, they have, in spite of many attempts, proved difficult of research. In part this is because emotions are primarily reactions which arise in emergencies, and in part because they are so quickly modified in the course of our experiences. Increasingly, however, studies upon the development of children and upon the origin of emotional difficulties in adults are throwing light upon the complex processes at work.

Development possesses an orderly character whether we consider it in the intellectual or emotional realm. The behavior of the present is not hit or miss behavior, but it is the product of modes of meeting earlier situations. Several points of view are current as to the nature of this development. Behaviorism particularly as espoused by Watson has received wide attention in recent years. It views development as a structure built out of elementary responses, present in the infant in complete form, and subsequently tied together in more complex patterns under the influence of experience. Behavior is built out of these units much as a house is built out of bricks.

It is here that perhaps the most striking contributions to the general theory of development have been made within the last five years. In the investigations resulting in a modification of this point of view, the studies concerning infants carried on at Ohio State University under Weiss and his colleagues have played no small part. Apparently behavior, far from being a matter of original, specific reactions, is instead composed of generalized reactions to stimuli, which in the course of time become differentiated or split up into a series of particular reactions. Progress is from the general to the specific, rather than from the specific to the general.

This principle is of importance for our knowledge of the emotions. Watson designated fear, love, and rage as three fundamental emotions, to which subsequently a fourth, jealousy, was added. These emotions appeared in the infant at an early age and remained much

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the same, though subsequently, through conditioning, they were modified and extended to wide ranges of stimuli. Sherman's investigations have indicated that the earlier responses of the infant to stimuli producing emotion do not possess this specific character. In fact the responses to all kinds of emotional stimuli are so much alike that it is almost impossible for observers, whether trained or untrained, to distinguish between them unless they know in advance the character of the stimuli.

Apparently the infant reacts to a stimulus originally with his whole bodily mechanism. Later, under the influence of the environment he comes to react with specific responses. This phenomenon is not only characteristic of the emotional field, but holds equally well in the field of perception, in the field of language development, and in the field of motor skill.

One of the corollaries of this principle is that the human being at each stage of development possesses the capacity to react to the total situation presented to him. However inadequate or imperfect his responses, he nevertheless reacts somehow or other. We can then expect the early emotional life of the infant to be simple and generalized; later to be differentiated and complex; and ultimately to be exceedingly complex. Some experimental evidence in support of this view has been obtained by Olson, who finds that between the ages of two and four years there is a fanning out, so to speak, of emotional life.

Another characteristic of the early emotional life of the child is the multi-potentiality of his responses. But the nature of the environment to which he is exposed, the opportunities for practice available, and the time in which he may practice result in progressively sharper and sharper limitations of his potentialities, so that in the end the organism becomes efficient and organized at the expense of versatility and potentiality.

The story of development, then, is a story of gradual transition from an undifferentiated and unorganized state to a highly differentiated, complex, and efficient state. In his progress the individual loses much, but gains more. In any individual child or adult we shall then expect to find remnants or traces of many responses which were essentially maladjustments or were harmful at their first appearances but which somehow or other in the course of development have been integrated and tied into a connected whole.

The story of human development, in this respect, is not much different from that of organization in any field. Iron as found in the mines is multi-potential. When worked and given a particular form it loses its multi-potential character. It may become anything from

a safety pin to an automobile or a steel girder. But a steel girder does not make a good pin, nor is an automobile of fabricated steel of much use as a pencil sharpener. In the development of form, possibilities are sacrificed to efficiency and function.

It is so with the human organism. The boy in the crib has musical, literary, and athletic ability; but he has only a limited amount of time in which to function. High skill in all three can only be obtained at the expense of much practice. If the boy practices music, he can hardly devote much time to kicking a football; if he writes he can hardly practice music at the same time; hence selection is both necessary and automatic—a selection which goes on in every individual. Some possibilities become emphasized and dominant, others are neglected, and still others are partially developed and remain at various stages of incompleteness.

As time passes, emotions like all other behavior become channeled, sometimes so much so that we feel helpless in the presence of one responding to a long-developed emotional tendency. The problem of adjustment is essentially the problem of guiding this channeling process in such a way that the individual will reach adult life with the emotional responses that are socially useful and which are significant for his happiness and his efficiency in the world in which he must live. Some become organized in ways that are essentially harmful to them and society; others achieve a degree of stability, balance, and poise which enables them to take their positions among their fellow-men as equals and so receive a measure of self-esteem, of social esteem, and of internal peace and happiness.

Integration goes on in all of us at all times. Two individuals are to be distinguished from one another not so much by the presence or absence of original emotional responses or maladjusting tendencies but by the way in which those responses, subsequent to their appearance, have been made a part of the whole personality of the individual. Dissociation, malfunctioning, poor adjustment are the opposites of integration, good functioning, and successful adjustment.

In previous discussions of the development of emotional responses, much attention has been given to the phenomenon of conditioning. So familiar is this phenomenon that I wish here to discuss another aspect of emotional development, one that has received somewhat less attention, and yet from the standpoint of mental hygiene, normal development, and behavior problems one that seems the more important. To do this it is necessary to go back to general psychology and ask ourselves the questions: "What is done by the human being who meets a new situation or a problem?" What happens when a

three-year-old sees his mother, who has previously devoted so much attention to him, fondle the new baby? What is done by one who loses a dear friend or relative with whom he has been in close contact? What is done by one who sees a small child cutting across the street in front of an automobile? The human being reacts to such a situation in terms of his inherited equipment or his past experience, or both. If the series of reactions called up meets the situation, the problem disappears, and the individual is adjusted. If we had responses available for every situation, difficulties and maladjustments would not exist. Actually, however, we have responses ready for but few situations that come to us in our complex modern environment, particularly if we consider the growing person.

Let us then ask, What does the human being do when he meets a situation for which he has no adequate response ready? He goes through a process of trial and error behavior either overtly or covertly. One response is tried out after another until the available repertoire is exhausted. In the process of adjusting to such a problem, the individual becomes emotional; that is, excited, wrought up, tense, afraid, internally perturbed, and so forth. The emotion apparently motivates the trial and error behavior, makes the individual go through all possible responses more rapidly, more intensely, more thoroughly than before.

During this process, the individual may hit upon a response or a series of responses which will meet the situation. Later on, when presented with it again, he is more likely than ever before to go through the same responses or series of responses and in this way he builds up a habit. If, during the trial and error, he were always to hit upon an adequate response, adjustment would be perfect, but some hit upon poor responses, bad modes for meeting the situation, or responses not socially condoned. Although such responses never completely meet the situation, they may in particular instances temporarily bring about a clearing up of the difficulty, and thus become fixed parts of the individual's reaction system. We may almost define a maladjustment as a response which temporarily eliminates a difficulty without eliminating the underlying emotional tension. When such responses become too marked, too fixed, or too antisocial, society must step in and must take care of the individual.

What is the meaning then of such an emotion as anger? Only that the individual does or did not know how to meet a particular situation. If he knew what to do so well that his reactions were automatic, he would not be angry. Consider the child in his first temper tantrum. He has been scolded for the first time by his mother,

a new situation. If the child had a response ready which would eliminate or get rid of the scolding, he would not be angry or show a tantrum. If the jealous person knew just what to do, how to break up the undesired attachment, would he be jealous? These questions may seem to you academic and unnecessary. But I want to emphasize them, because we do not ordinarily think of an emotion as indicating that the individual is engaged in the process of adjusting himself to a situation, nor do we look upon his responses as failures to meet the real problem.

It is obvious from the discussion so far that one of the factors which determines whether an individual will adjust or not is his versatility of response; that is, the number of things which he does when he faces a problem that is new and difficult. For example, consider someone who loses a dear friend or lover. If he has hobbies, strong interests, a variety of contacts with life, he is likely to adjust successfully, partly because of the variety of responses he has available for emergency. One of the functions of any educational program is to provide a variety of responses, useful in various situations. For instance, the blind or the deaf individual by virtue of his handicap is cut off from many of the outlets possessed by the normal individual for meeting difficulties, yet because of his very blindness or deafness, he is bound to meet more difficulties. Hence, a program for counteracting a physical handicap is primarily a program of training and developing the individual in such a way that he will have modes of meeting situations, and of responding to problems that lie within his physical and mental limitations; otherwise, by virtue of the limitation of his responses, he will deteriorate and go to pieces.

The child who develops a temper tantrum is in one sense blind. He does not know what to do. As mild responses have failed, he intensifies his reactions until he has worked himself up into a state so severe that he loses self-control. If, after a few trials, he finds that the loss of self-control results in the fulfillment of his desires, he soon learns to lose his self-control rapidly on small provocation. The temper tantrum is a mode of behavior which meets the situation. If, somehow or other, he can be given a response more adequate to the particular situation, he is immediately free of the whole series of difficulties. The problem of controlling temper tantrums, then, is to demonstrate to the child that there exists a more efficient method of meeting the situation he faces. This involves an analysis of the situation even more than the response.

The boy who steals or who shows abnormal sex behavior is an individual who has met situations inadequately. Delinquency and poverty are intimately bound up together, not necessarily because of

any inherent connection but because one brought up under conditions of great poverty lacks the outlets or versatility of behavior necessary.

There is another principle involved in maladjustment. When one makes a partial, incomplete, or inadequate response to a situation, he is merely putting off the time when it will be necessary to meet the difficulty more completely. With correct reactions, on the other hand, future similar situations cause no emotional tension. The first time you go to a large formal dinner you may be tremendously confused by the variety of cutlery presented you and may make mistakes which are embarrassing. If you meet this situation by staying away from formal dinners, you are merely postponing your difficulty. If, however, by inquiry and by study and by observation you learn the proper order in which the cutlery should be used, you have solved the formal-dinner situation. Each successive dinner will bother you less.

Partial, incomplete, inadequate adjustments to a situation bring with them, in the next similar situation, a recurrence of the emotional reactions associated with the trial and error behavior plus a memory of earlier embarrassment. In turn, then, the individual must adjust to a still more complex emotional situation with its high tension. Ultimately a vicious circle is set up. The boy gets into a difficulty because he failed to hit upon an adequate mode of response the first time it was presented, and then because of his poor mode of response to that situation he gets into more difficulty which in turn increases the likelihood of poor response to the situation and again in turn brings more difficulty. Suppose a boy with mechanical interests living in an isolated community conceived the idea of developing a perpetual-motion machine. Because of his mechanical ability, he puts together a device which receives some social acclaim in its early stages by virtue of its intricacy and complexity. Whenever the boy gets into minor difficulties, he tends to turn to the construction of the machine. Now suppose that his neighbors and associates, realizing that the idea is foolish, begin to deride and ridicule him; a new series of difficult problems is presented to the boy. He values the esteem of his neighbors and becomes emotional over the loss. How has he been meeting emotional situations in the past? By turning to the perpetual-motion machine as a device for meeting his difficulties. A habit has been set up. He turns to it now and works at it more furiously than ever and as a result is more and more ridiculed. Ultimately, this circular process goes so far that he becomes antisocial. It may then become necessary to confine him in an institution. Suppose, however, that he had hit upon a socially useful device for expending this energy; the very pertinacity with which he tackled

the problem would under such conditions bring adequate adjustment, social reward, and the esteem of his fellows.

One striking characteristic of the conduct of the maladjusted individual is the one-track response which he exhibits. Clinical workers are frequently impressed with this. In case after case, a poor mode of response arises despite the fact that the clinician makes his best effort to bring about proper adjustment in the individual. The patient turns back again and again to the same way of meeting the situation. Delinquent girls, despite every opportunity, in many instances, tend to return to their delinquencies and usually to a delinquency of the same type as that originally causing the difficulty. Here is a demonstration of the vicious circle. Inadequate behavior modifies the stimulation received; the modified stimulation in turn affects the responses. Life acquires an inevitability that renders both the person adjusting and the person giving aid helpless. Seemingly the person in question does not know any other way to adjust to situations. When I use the word *know* here, I do not mean it necessarily in the conscious sense, but I mean a reaction adequate to the situation as a part of the individual's reaction equipment. In most cases the problem of treatment is the breaking up of this vicious circle in order to remove the complex social situation with its tension that drives him back again and again into inadequate response, and to put into the reaction system new modes of reaction.

What must we know before actually proposing a remedy or introducing a new mode of training? In the first place, we must know the actual difficulty faced by the problem case. This is not so simple as it sounds for it involves a careful analysis of the entire mental life of the individual. Frequently the apparent cause or immediate situation to which the maladjusted person seems to be responding is not the true one. In the second place, a knowledge of the past reactions and history of the individual is necessary. How has the situation been met in the past? In the third place, the approach should be made from a viewpoint that each response, however trivial, foolish, emotional, or personally disturbing, is itself an indication that a process of adjustment is under way. Rarely will it be possible to break a vicious circle of response and the resulting stimulation either in a single interview or with a single procedure. The more seriously maladjusted or antisocial the reactions of the individual, the more fixed and set are his reactions to difficulties, and the longer and more involved becomes the process of re-education. Treatments or devices which increase or intensify the emotion in the individual are fatal. A recent study on anger outbursts in young children shows that slapping, scolding, and threatening increase the frequency of outbursts.

One of the fundamental problems of education and mental hygiene in the broad sense is to provide each individual with a variety of responses and a versatility of reaction that will enable him, when he meets difficult situations, to utilize other modes of response than the one proved ineffective. Too often our educational program produces individuals with "one-track minds" who are slaves because of the very narrowness of their response mechanism.

Further, both in the individual and in the mass we must provide substitutes for activities which are undesirable. What the maladjusted child needs is a new mode of response. To destroy or take away the old method of response without substituting another is to make his situation more difficult and involved.

What is true of the individual seems also to be true of the group. When society removes a mode of response from many individuals, it must, if the taking away is to remain effective, substitute another activity. I recall a small college town in which there were fifteen saloons. Moving pictures came into existence. Within a few years without legislative enactment of any sort, there were three saloons and three moving-picture shows. Where previously the chief recreation of the students had been drunkenness, now the moving picture had partially taken its place.

Although our success in meeting the needs of the maladjusted child depends in part upon our ability to locate the problem and in part upon our knowledge of the past response of the individual to difficulties, it is primarily determined by our ability to provide successful substitute responses for the inadequate and partial responses he has been making. And above all, it is necessary for us, both in our personal relations with one another and with children, to view emotion, not as a finished response, but as an indicator that adjustment is going on. The expert is unemotional; perfect adjustment is unemotional.

The processes of emotional adjustment in the abnormal and inadequate individual do not differ from those which are going on in the normal individual at all times. In all of us there are emotional responses. There are some situations to which we respond adequately and expertly, while there are others to which we respond inadequately and inexpertly. The normal individual, however, is distinguished by the fact that in most of the situations which are concerned with the day by day relations of human beings, he meets the situation without having left in his system a permanent tension; the abnormal individual is distinguished by the fact that there remains behind a core of emotion which is reactivated when the situation is

again presented. It is not necessary to develop a complex and involved scheme of explanation for his behavior; it is only necessary for us to recognize clearly that a complete analysis of the situations to which he is reacting is essential, and that the underlying mechanisms are the same for all of us. Emotion is always an indication that a process of adjusting is going on, whether it arises in us or in others. Integration or mental wholeness is not something given the individual at the outset, it is something which is achieved as we go through life. Strain and stress are a part of the lot of all; sympathy with the organism which is engaged in adjusting to strain and stress and an understanding of what he is doing are not so common. If we would have well-adjusted children, we cannot raise them in hothouses, nor can we shield and protect them from all the stresses of living. We must expose them to life itself, and remain ourselves somewhere in the background, seeing to it, by indirection rather than by direction, that they meet situations rather than avoid them, that they carry the learning process through to the point at which the situation loses that inevitable early concomitant of emotion, itself necessary for the process, and leaves them with no permanent or long-lasting nucleuses about which maladjustments can develop. Hasty, ill-considered treatment, incomplete analysis of the difficulties they are facing, lack of sympathy and understanding of the fundamental life process in which they are engaged, all alike carry inevitable consequences of pain, suffering, and unhappiness.

Social Rehabilitation of the Delinquent

By PRENTICE REEVES[2]

THE KEYNOTE OF THIS CONFERENCE IS "Education as a Social Investment." The word *investment* ordinarily involves dollars and cents, expectancy of return, risk, and numerous liabilities. Education as an investment comes well within these ranges. Good citizens represent good investments and are normally law-abiding, while poor citizens represent poor investments and are usually lawbreakers (delinquents). Education has its part to play in preventing and "curing" delinquency.

Delinquency appears in some form in practically every individual at times, quite frequently in some, less often in others. The prevention of delinquency is a major social problem, for after any individual has committed one or more delinquent acts, the important part of

[2] Ohio Board of Parole.

any rehabilitation program is the prevention of further delinquencies. The large number of individual offenders, representing several times that number of offenses, appearing before our courts is sufficient proof that no efficient system of prevention has been developed. Every commitment to a correctional, reformatory, or penal institution represents a failure of the home, school, church, and of society as a whole.

The first group of delinquents includes those who do not reach the courts. Their offenses are usually minor and are often neglected at home, in the school, and in society, yet they may be the first danger signals of acts that represent the beginnings of a career of crime. Bad habits that are never formed do not have to be combated later, and good habits substituted at this time are liable to be permanent. The school, the church, and the home should co-operate in the rehabilitation of children belonging in this group. Adult delinquents in this class offer another group of problems.

The next class of delinquents are those that actually reach the courts but are released on payment of fines, are placed on probation, or are otherwise disposed of so that they are not removed from society. They have had their offenses brought clearly into the open and are subject to close legal selection and supervision. Efficient and adequate co-operation among the relatives, court, and local agencies is to be encouraged and if it be lacking the court has legal authority to insist. In extreme cases the entire environment of the offender may be changed and if all plans fail, the offender on trial through probation may again be called before the court and committed to the appropriate institution.

Only as a last resort should commitment be made, except in more severe offenses. The treatment of this class of delinquents may be divided into two kinds: that provided while incarcerated; and that while on parole between the time he is released from the institution and the time he is relieved of further legal supervision. Methods of following him after his release present a special social problem.

The modern theory is that the punishment should primarily fit the criminal and not the crime. Deprivation of liberty is probably the greatest element in punishment. The deterrent effect of imprisonment not only acts on the individual offender himself but on the potential or probable offenders. At least 95 per cent of the offenders committed to institutions are returned to society. The real purpose of imprisonment is to protect society and, if this protection is to be permanent, an intelligent program must include treatment that will return an offender to society so that he will not be a recidivist. A large percentage of crimes is committed by a small percentage of offenders.

Departure from a vindictive, barbaric treatment of inmates and a substitution of constructive education, vocational guidance, and the appreciation of a full day's work is the trend of the thought for a penal program. Smaller institutions in which a trained staff of workers has close contacts with individual inmates; in which a segregation of more homogeneous groups follows an efficient classification of inmates; and in which a scientific program of selection of those prisoners ready for another trial on the outside—this is the program for which we should strive.

After an individual offender has been selected for parole, he should be carefully supervised by an understanding, well-qualified parole officer. These officers should have a case-load and territorial limitation in harmony with recognized standards. For the good of the offender, who is now trying to re-establish himself in society, both the offender and the parole officer should have the whole-hearted co-operation of all local agencies and persons concerned.

No one is wholly normal and no one is wholly abnormal or subnormal. In the entire problem of delinquency the greatest factor is the delinquent himself, and a successful program of rehabilitation of delinquents will be possible only when each individual contacting the delinquent has an understanding of the offender himself.

Social Ideals in the Education of the Deaf

By MARY VIRGINIA DAVIS[3]

To save the souls of the deaf from the well-advertised tortures awaiting the unredeemed in the life hereafter was the underlying social ideal of the early teachers of the deaf. Developing human beings able to maintain themselves and to share in the responsibilities of adult life is the present-day ideal. The hereafter does get some attention but the here and now looms much larger.

There have been well-authenticated instances of educated deaf individuals back as far as the fifteenth century, but until the eighteenth century they were as rare as "educated seals" and of a similar educational significance. In the golden age of Greece and the Augustan age of Rome, the deaf were considered completely ineducable. The deaf architects, bacteriologists, chemists, printers, preachers, and teachers of today reveal how much the wise men of those days did not know.

Certainly no better investment by governmental authorities has

[3] Ohio State School for the Deaf.

ever been made than the giving of educational opportunities to the deaf. The uneducated hearing person can and usually does find a way to maintain himself at some social level. No Ph.D. is required to become a millionaire, though becoming a doctor of something or other is not such a difficult trick after the million is in hand, provided the hand does not clutch it too tightly. The uneducated deaf, however, are as much of a social menace as the feeble-minded. They must always be wards of some group: the family when it is able and willing; a charitable unit otherwise.

It is true that educating the deaf is much more expensive than educating the hearing. Residential schools for the deaf, a necessity since their homes are so scattered, have a per-capita cost of about $500 per year, while city systems have a per-capita cost of $100. It is worth much more! The twelve years it takes the deaf of normal mind to complete their schooling nearly guarantees their economic independence. Otherwise all but a small fraction would soon be living at the expense of their communities. Instead, the educated deaf not only maintain themselves, but in many states they maintain as well a home for aged and crippled deaf. Ohio has such an institution a few miles northeast of Columbus.

The educated deaf, as a class, own their homes, give college educations to their children, who are usually born with good hearing, drive their automobiles, contribute to community chests, vote, and take an active part in the life of the community. They succeed in nearly every line of work where contact with the public is infrequent. As a social investment education of the deaf repays the principal with high interest. It changes social liabilities into social assets, and it turns mere animals in human form into responsible human beings of high moral character.

Just how much more could we ask of education than this?

Business Education in a Scientific Age

By PAUL S. LOMAX[1]

BERTRAND RUSSELL HAS VOICED THE OPINION that Western civilization is principally derived from three sources, the Bible, Greece, and science, and that science has chiefly expressed itself through machines. Consequently, the subject of this paper might be "Business Education in a Machine Age." Again, since the machine has been predominately a means of the industrialization of our modern society, bringing business into a pre-eminent position among the primary social institutions of our day, we might appropriately entitle this paper, "Business Education in a Business Age." It is, however, neither the machine age nor the business age which we desire to be the focus of thought, but rather the scientific method by which human intelligence has brought to pass the marvelous sciences which increasingly comprise modern information upon which constructive thought and action are based; hence, the theme of this discussion, "Business Education in a Scientific Age."

What is scientific method? Almack answers this question by saying that it is "a mode of applying logical principles to the discovery, confirmation, and elucidation of truth. Method is also used to signify the pursuit of knowledge, while scientific is used to signify expert. The expert pursuit of knowledge, then, comes as nearly defining scientific method as is possible in a few words."[2] Hence in the spirit of his scientific age each and every business teacher should have understanding and appreciation of its nature and significance in the building of our Western civilization.

"The essence of the scientific method," Bertrand Russell believes, "is the discovery of general laws through the study of particular facts."[3] Science is tested knowledge, which is systemized into its set of guiding principles by which changing practice may be evaluated, trends may be indicated, and future developments may be directed in line with the ideals of our democratic society. The science of business, as one of the primary social institutions of our modern life,

[1] New York University.

[2] Almack, John C. *Research and Thesis Writing*, 1930. p. 57.

[3] Russell, Bertrand. *The Scientific Outlook*, 1931. pp. 63–65.

is economics, or the science of wealth. By the principles of this science, the teaching materials of business education will ultimately be systemized, evaluated, and given needed direction in line with the key position which business occupies in American social life. Indeed, as Charles A. Beard has pointed out, all civilizations have had "meaning and vitality only in relation to their economic substructure."[4]

We may single out elementary business training, taught in the early grades of secondary schools, as one of our most important business subjects, which needs to be much better systemized and evaluated by means of the science of economics in the light of a sound social philosophy of business. There is a twofold problem involved here: the need of the economists themselves to study their principles in the light of business phenomena, and the need of business teachers to systemize and evaluate their teaching materials by the carefully tested principles of economics. Economics, as the essential theory of business practice, should be constantly revamped by scientific method in the light of constantly changing conditions of business practice. We see this need reflected in the business depression of today, in which the science of economics has shown much untrustworthiness as a guide in the restoration and maintenance of stability.

If elementary business training is to become a soundly organized system of knowledge, its principles will be known and generally agreed upon by the teachers of this subject. If the subject is to be an elementary treatment of business as a dynamic social institution in which the functions of production, marketing, finance, management, and consumption are presented, the principles by which such functions are to be judged good or bad by teachers and pupils will become the real educational meat of such a course. The same principles will serve as criteria in judging the relative efficacy of various techniques, such as filing, letter-writing, billing, buying, and selling, in serving as facilitating means of carrying on the functions of business. To be sure, such principles must be simply stated and simply applied in the case of young secondary pupils. Fortunately, it is the very simplicity of such principles that most searchingly tests their soundness.

Thus far we have suggested that the glory of our scientific achievements in all phases of our modern life is not chiefly in the things accomplished but rather in the *method of thinking and working* employed. It is this method of progress upon which we should center our attention and by which we should challenge business education in a scientific age.

Bertrand Russell has asserted that "America is leading the way in the transition from science as knowledge to science as a set of

[4] Beard, Charles A., Ed. *Whither Mankind*, 1930. p. 13.

practical habits."[5] In this respect probably no social institution has made greater practical application of science, as carefully tested knowledge, and of scientific method as a highly developed and organized means of intellectual effort, than has American business in its hundreds of research laboratories at a cost of millions of dollars.

We wish, therefore, to contrast the scientific outlook of business men and of business educators by pointing out that business, on the one hand, has tended to make ever newly tested knowledge and techniques the bases of thought and action, and that business education of our formal schools, on the other hand, has tended to entrench comparatively old knowledge and techniques. We first turn to American business to cite a few illustrations of how it has used scientific method as a means of dealing with changing conditions.

The astonishing development of the automobile industry has been chiefly a triumph of intelligent use of scientific method as a means of improvement. In the Ford Rouge Plant, for example, in October, 1913, "a check-up showed that the average labor time required to put a Model-T engine together was nine hours and fifty-six minutes. This was an achievement. Yet today the assembling time for a Model-A motor . . . is exactly two hours."[6] The use of scientific method in appraising actual assembling operations has resulted in the decrease in average labor time from nine hours and fifty-six minutes to exactly two hours.

We recall Edison's world-wide search and research for a cheaper and more abundant source of supply of natural rubber. This is a remarkable illustration of patient, exacting, and long-time examination of thousands of possibilities in the effort to find a solution to his problem. Along with this search for a new supply of natural rubber, research had also been in progress to discover a method of producing synthetic rubber. After five years of research in the laboratories of E. I. du Pont de Nemours and Company, it was announced by H. E. Howe, in *Nation's Business*, January, 1932, that a method of producing synthetic rubber has been discovered and that it is to be regarded as one of the outstanding achievements of 1931. Here is another triumph of practical research in a leading American industry.

L. D. H. Weld describes how he is endeavoring to use scientific method in the advertising field. He says,

> Advertising men trust largely to judgment based on long experience, and sometimes to mere hunches. But gradually there are being developed methods for predetermining the effectiveness of different types of copy,

[5] Russell, Bertrand, *op. cit.*, p. 66.
[6] Norwood, Edwin P. *Ford Men and Methods*, 1931. p. 93.

and of finding out which particular pieces of copy, out of a number that have been prepared, will be most likely to produce sales.[7]

This is a third example of how business is endeavoring to meet changing business conditions on the basis of facts carefully ascertained and evaluated by scientific method.

James R. Kearney, founder and president of the Kearney Corporation of St. Louis, has taken advantage of scientific method as a means of adjusting his business methods to new conditions and thus enabling his corporation, devoted to the manufacturing of overhead and underground electrical equipment, to maintain a prosperous business in depression times. When he was asked about this miracle of his corporation, he exclaimed, "Depression, heck! I've never heard of it; been too busy trying to take care of our expanding business!" How this achievement was brought about he explains:

During 1930 the Kearney Corporation conducted an intensive survey of its major markets, light and power plants and independent telephone and railroad systems, to ascertain the exact purchasing power of each potential customer. The survey disclosed more than 2,000 plants whose purchases did not justify the expense of a representative's call, and also many plants whose purchases indicated they should be called upon more frequently. It likewise pointed to the units which each individual plant was purchasing from competitors. Sales territories were redistricted according to sales-volume possibilities, and in a manner which would permit representatives to call on customers as regularly as was justified by the potential market they offered. . . . A direct-mail advertising campaign was instituted both to obtain direct orders from plants which representatives did not visit and to "set the stage" for representatives' calls upon other plants. . . . We don't permit our men to talk hard times; if we catch them at it we fire them. The country isn't broke and it isn't going to the devil. Most of the fellows who talk hard times have simply lost their nerve.[8]

This is an attitude of progress, an attitude of scientifically appraising a business with a determination of intelligently making needed adjustments in order to cope successfully with new and unexpected conditions.

At the outset of this discussion, we wish to emphasize that business teachers as a group are probably as progressive in keeping their subjects in line with practical life experiences as are the other groups of American secondary-school teachers. Furthermore, busi-

[7] Weld, L. D. H. "Putting Science into Advertising," *Nation's Business*, XX (January and February, 1932), p. 40.

[8] "He Met Changing Times with Changing Methods," *Nation's Business*, XIX (November, 1931), p. 86.

ness teachers have already made commendable progress in becoming scientifically minded toward their teaching materials and methods of instruction. It is realized, however, that laboratories are expensive to maintain and demand professional co-operation of a much higher degree than has yet been accomplished among business educators; nevertheless, we confidently believe that ultimately such laboratories will be realized, independently of the manufacturers of school equipment and of the publishers of school textbooks. If business educators can demonstrate their leadership in the use of scientific method in formulating sound principles of business education and in applying these principles to the evaluation of business practice and of business teaching, such educators may reasonably expect the financial backing of individual business men of wealth, of associations of business men, and of research foundations.

It is common knowledge that the teaching material of business education has hardly begun to be carefully tested in the light of actual occupational requirements of the various types of best American business concerns, both large and small in size. Bookkeeping-teaching material, for example, has not yet been subjected to large-scale and long-time research in terms of thoroughgoing job analyses. The interest of teachers has been chiefly centered in methods of organizing and teaching the subject. An extensive occupational evaluation of bookkeeping-teaching material is probably too much to expect of individual business educators. A professional organization of such educators, with needed financial support, should undertake a project of this nature. The limited study which Strumpf made of the duties of bookkeepers suggests the nature and significance of extensive investigation which is needed to bring bookkeeping-teaching material and instruction in line with best occupational standards. This is not primarily a responsibility of publishers of bookkeeping textbooks, but it is definitely a responsibility of professional organizations of business teachers.

While much more large-scale and long-time research has been made in shorthand than in bookkeeping-teaching material, hardly more than a good beginning has been accomplished. The Charters and Whitley *Analysis of Secretarial Duties and Traits* is the most extensive job analysis so far in business education. It was made at a cost of several thousand dollars, under the auspices of the National Junior Personnel Service; and yet no extensive reconditioning of shorthand-teaching material has ever been made on the basis of this study. Mr. Charters has indicated the research techniques to follow in constructing and reconstructing teaching material from such a job analysis, but no individual or organization has undertaken the enterprise in a comprehensive and thoroughgoing manner. Again, an

investigation of this kind on a large-scale and long-time plan is appropriately the task of a professional organization in which a group of leading business educators with needed financial support can undertake the work.

In addition to the gigantic task of appraising shorthand-teaching material on the basis of job analyses, there is the difficult, complex problem of scientifically weighing the comparative strength and weakness of different shorthand techniques or systems (manual and machine) in serving as efficient means of handling oral and written communications in office and reporting situations. Although the profession of business education should greatly value the research efforts of publishers of shorthand systems to make their systems as efficient as possible, still business educators should ultimately set up their own research laboratories with needed financial backing in order that they may be in a strictly professional position to deal independently with the relative merits of the various manual and machine systems. The profit-making nature of the publishing companies, perfectly proper as that profit-making is, makes it impossible for them to be free of bias and to deal with the whole problem of manual and machine shorthand with an open mind. Even with teachers themselves who are trained in particular systems, this necessary openness of mind in making a really scientific appraisal of the various shorthand systems may prove a difficult task; although it would seem that business teachers, not imbued with the profit-making element, should be able to approach the problem with less bias and more open-mindedness. At any rate, until business educators can do this, they have not become real scientists, and business education has not become a true profession in a new scientific age.

What is said about rigorously testing different shorthand systems by the scientific method, independently of the publishing companies, should be said with equal emphasis about different systems of bookkeeping, typewriting, office practice, and other kinds of textbook material. All business teachers will appreciate that the profession of business education has barely begun to be scientific in its appraisal of the content and techniques of business subjects in terms of best and typical business practice, on the one hand, and of pupils' individual differences in different types of schools, on the other hand. Our large business concerns, equipped as they are with their own research laboratories, and obliged to deal in a market of sharp competition in which technological improvements are constantly being made, as in the automobile industry, naturally tend to be much more scientific in their attitude toward improvement than do business educators.

The latter, mostly living apart from constant changes in business practice and procedures that are needed to meet ever new conditions of doing business and tending to get their teaching materials and methods molded into definitely organized plans which have proved successful in formal classroom situations, naturally grow complacent in the security of their successful plans. If the same business teachers were removed from their formal classrooms and put into the training schools of business concerns themselves and were compelled to adjust the content and the methods of their teaching subjects to the continual changes in office practice and procedures, such teachers in such an environment would probably acquire more quickly and thoroughly the ideas of science and of scientific method. It would seem that an apprenticeship in research laboratories of business concerns by business teachers, trained in understanding, appreciation, and use of the research method, would prove a valuable experience in the acquirement of the scientific attitude which has helped to make business the key social institution of our day "in the transition of science as knowledge to science as a set of practical habits" in the material and, ultimately we hope, spiritual advancement of mankind.

To bring about the scientific appraisal of business-teaching material in terms of business practices and procedures, associations of business educators and of business men, imbued with the meaning and practical importance of scientific method, need increasingly to work together with open minds in the spirit of the scientific age. It may take stout courage, infinite patience, and high intelligence to bring about changes in line with substantial and genuine improvement. The time of forceful, constructive leadership of great scientists in business education is at hand, even as it is true of business and of all other fundamental phases of our modern social life.

Not only must business educators and business men work together in their professional organizations in the advancement of science in business and business education, but there is likewise urgent need for business educators and other educational groups, particularly those in the social sciences, to work together in the spirit of scientific improvement. Business education is not confined to the commercial departments of high schools. Rather business education, as representative of business as a primary social institution, is coextensive with the whole educational program. The physical, biological, and social sciences, mathematics, languages, all have their applications in practical business experiences. The social institution of business, as it carries on its functions of production, marketing, finance, and management with respect to the needs and problems of ultimate consumers, touches, with varying degree and kind, the life experiences of each and every

individual. Consequently, whatever enters into the complete and well-rounded education of individuals in the public schools of the nation as good citizens of a democratic society must involve the primary economic function of business, whose well-being ever lies at the base of the ultimate attainment of a truly great culture or civilization.

A strategic place in our public educational system, where business teachers and social-science teachers need to join in co-operative research, is in the junior high-school organization, in elementary business training and the various so-called social-science subjects. There is unquestionably much overlapping among these subjects, which demands co-operative effort in the true spirit of scientists who seek to see the whole problem of the curriculum as it relates to the social institution of business rather than mere individual research efforts of specialists along somewhat narrow and detached lines of investigation. Indeed, future research in business education should increasingly be made in lines of correlation with the whole curriculum; that is, various phases of business education should be treated as a whole with the various other phases of the entire curriculum treated as a whole. This would make such a study in keeping with a consideration of the nature and relationships of business as a primary social institution in its unity of life experiences with the other primary social institutions of home, church, government, and organized recreation. There should, ultimately, be made a study of the curricular aspects of business education and of the other main divisions of formal schools in terms of the institutional aspects of business and of the other key social institutions which together comprise organic social life. The comprehensive social mission of business education within our formal schools should be the central objective of all business teaching and research effort, even as it should be of business within the family of social institutions.

As for this social mission of business itself, Julius Klein, in his admirable chapter on "Business" in Beard's *Whither Mankind*, closes the chapter with this forceful and prophetic paragraph:

> Unless these mighty works of modern industry and managerial genius really contribute to improved comfort and welfare for masses of human beings, business cannot claim to have advanced in fundamental social value since the primitive days of the industrial revolution. But most assuredly the business world has awakened to a new consciousness of its responsibilities in that direction and to a realization that only by assuming them can it play its part in restoring the fabulous losses of the War and the post-war economic chaos.[9]

[9] *Op. cit.*, p. 109.

And as the leadership of business, working together in the spirit of science and of scientific method, will more and more pursue profit-making in the light of the economic and general social well-being of the ultimate consumers, so will the leadership of business education increasingly view business education in the light of the whole curriculum by which its ultimate consumers, the pupils, are equipped with a well-rounded preparation for the whole of social living, including business activities. With the coming years that will certainly witness continued professionalization of business teachers, their understanding, appreciation, and ability to use scientific method will become widespread among them. Business educators, with this spirit of research guided by a sound social philosophy of business, will come to occupy a key position in the councils of education, even as business leaders have come to occupy strategic places in the councils of nations in their many-sided social life. The unity of business in social living will have its counterpart in the unity of business education in formal schooling. Business education will more and more make advancement on the basis of newly tested knowledge and procedures by scientific method, even as business has become the key social institution of today in the development of applied science as a power of human adjustment in changing economic conditions.

Mr. Jacks, of Oxford University, voices a social philosophy that may well inspire business educators as they seek to bring business education in a scientific age to a high level of substantial educational and general social progress:

> Of all the influences that make the men and women of today what they are, for good or for evil, the chief is unquestionably to be found in the nature of the manifold occupations by which they earn their living. And this holds true, not only when we are thinking of men and women one by one, but of nations, of societies, of civilizations, of historical epochs in their collective and continuous character. It is as true of every modern civilization as of any individual who lives under it, that its character as a high civilization or a low is mainly determined by its occupation; that is, by the kind of work which sustains it as a going concern from day to day.
>
> . . . . . .
>
> We make a mistake in setting up a sharp division between work which earns our "living" and the living that is earned. We are living all the time we are earning, and if we want to live well or happily we must live well and happily then.
>
> Earning and living are not two separate departments or operations in life. They are two names for a continuous process looked at from opposite ends.[10]

[10] Eurich, Alvin C. *The Changing Educational World, 1905–1930.* pp. 124–25.

Individualization in Business Training

By JUVENILIA CASEMAN[11]

THE TRADITIONAL METHODS OF TEACHING business subjects are open to the same criticism as the traditional methods of teaching academic subjects. These methods of instruction have failed to meet the problem of individual differences in pupils and have also emphasized the acquisition of information and the development of skills and habits. Traditional methods result in static possession of facts, informations, and knowledges rather than in the ability to use in a dynamic sense these same elements. The conventional methods in education emphasize acquisition at the expense of developing powers of self-initiation, self-direction, self-appraisal, self-discipline, and self-control. Education as growth which considers the individual and society as developed organisms requires a changed point of view relative to teaching technique, a technique which will emphasize the development of power, growth, and personality as contrasted to the acquisition of facts and information.

Dewey says, "Education means the enterprise of supplying the conditions which insure growth, irrespective of age." To present these conditions or stimuli then becomes the primary work of the teacher. In *The School and Society* he makes this statement: "The moment children act they individualize themselves; they cease to be a mass and become the intensely distinctive beings that we are acquainted with out of school, in the home, the family, on the playground, and in the neighborhood."[12] If we accept these two statements, the problem becomes one of individualizing instruction and of finding a procedure that will reach the individual.

In A. N. Jorgenson's manuscript on "Individualization of Instruction," he makes the following statements about this procedure devised to individualize teaching:

> Mass education is a necessity in the sense that individual teachers will continue to be responsible for classes of children. It is inconceivable that individualization in the sense of one teacher and one pupil will ever become a reality. Individualization shall be conceived as the adjustment of mass instruction to individual differences.
>
> This procedure is in no way opposed to the socialization of the individual. An individual may, in part, be socialized by individualized instruction.

The spirit of this procedure is the spirit of democracy. It considers each individual as a sovereign personality. The teacher con-

[11] Hutchinson High School, Buffalo.

[12] Dewey, John. *The School and Society*, Rev. Ed., 1915. p. 33.

structs lesson sheets designed to transfer responsibility to the pupils, and in the spirit of service makes it easy for the pupils to attack problems in their own way. After the pupil locates and diagnoses his own difficulties, he is given assistance as the need for it becomes apparent to him.

The spirit of service requires patience, sympathy, and cheerfulness on the part of the teacher. The high school should be the most fertile field for rendering this service in individualized teaching.

In addition to the right spirit or motive power, there must be the right method. A method to be generally accepted must be practical. To be practical the method must be cased in terms of subject-matter learning to some extent, at least for the present. Dr. Jorgenson says:

> It must recognize existing school organization, class organization, and must provide for equal moving of children. Individualization keeps the group together by units. It analyzes the subject-matter to be learned and determines upon the basic elements in terms of subject development, social utility, and frequency of use, harmonized by studying the interest and purposes of the students. These elements constitute the *C* assignment or the minimum essentials in terms of subject-matter, used functionally as far as possible. Then to reach individuals of varying abilities the *B* and the *A* assignments shall provide for creative thinking and emphasize personal growth rather than acquisition. The lessons themselves are self-directive and self-corrective. They should be written on the language level of the students.

Space does not permit the treatment of the specifications for constructing lessons, the problems of administration, the difficulties of marking, and the like. The following lesson plan is prepared to illustrate individualization of instruction in presenting the topic "Your Relation to the Business World."

SUBJECT—
Elements of Business Training
UNIT I—
Your Relation to the Business World
LESSON I—
The Meaning of Business
The part business plays in your life as a member of your home, your school, and your community
TIME—
Four school days
AIM—
These lesson sheets have been prepared to aid you to develop an understanding of business and its relationship to you.

Explanation.—Everyone should know something about business and every home and schoolroom may be compared to a business. All persons

will deal with business people and use the services which business gives to society. An understanding of good, sound principles of being businesslike in the home, school, and office will help you to handle your own affairs later.

Correct habits of work and systematic planning plus businesslike procedures ought to insure better work on your part as a student in school and later when you will sell your services in business.

Your out-of-school activities will bring you into contact with adult workers and ought to assist you in developing such traits as promptness, dependability, punctuality, and persistence, all of which are necessary for your success in life.

Perhaps you will be surprised to be told that you have had many contacts with business:

Did you take a bus to school this morning?

How much did your ticket cost you for the movie you recently attended?

Do you know of someone who is engaged in business? Why do you say this person is in business?

Would you say your corner grocer is in business?

How about the newsboy who sells papers at the corner, is he in business?

In my opinion, I believe your home is a business. Can you tell why I believe it is a business?

Our school is a business, too.

Definitions.—The term "business" as used in our work includes all of man's activities which are directly related to providing a living for the people of the world.

This meaning of business includes the interchange of goods and services for a medium of exchange with which to satisfy human wants and desires. (If the term *medium of exchange* is not clear to you, ask for its meaning, or look up the meaning in the dictionary.)

If this be true there are really two sides to business; there are the people who make things and who perform services for which they are paid. These people are called "producers." On the other hand, there are those who buy the things produced and who use and pay for the services. They are called "consumers."

Business today is very different from that carried on by our forefathers. It has become increasingly complex.

Illustrations.—You ate many articles of food this morning for your breakfast. People from all over the world have helped to grow, to manufacture, to transport, and to sell to your family the food found on your breakfast table this morning.

In order to understand how complex business has become, consider for a moment a shelf in the corner grocery store. Notice the cans of salmon from Alaska, sweet corn from Maine, tuna fish from California, soup from New Jersey. There are matches from Sweden, salt from Michigan, rice from Louisiana, coffee from Brazil, and tea from Japan. Each article represents the combined work of farmers and manufacturers of many kinds, railroad men, truck drivers, bankers, and many others. The grocer needs the services of all these businesses. These businesses also need the grocer.

Contrast the making of bread in colonial times with bread-making today, including the growing of the raw product, gathering the grain, packing it, shipping it to the miller, getting it to the baker, financing it at some stage, and selling it to the corner grocer. (*See* the illustration in your textbook.)

You should now understand that business as carried on today is complex. You will be able to compare your conclusions about business, its meaning and complexity by using your textbook for the course *Elements of Business Training* by Brewer, Hurlbut, and Caseman. It is suggested that you read pages 1–9 in this book.

No doubt you have decided whether you are at present a producer or consumer. (If you are unable to arrive at a conclusion because of not understanding the lesson or textbook, then ask the teacher for help.)

Consider your home and your school each as a business. Decide upon the people you conclude are consumers and producers in your home and your school. Because of the importance of knowing something about business in as much as it does touch our daily lives in many ways, you should become an efficient consumer of business goods and services.

ASSIGNMENT C—

This assignment constitutes the basic elements that all students should master.

Write the answers to the following questions. Be sure that you have used well-constructed sentences to express your thoughts.

1. What is the meaning of business?
2. What is meant by a producer? A consumer?
3. As a student, do you consider yourself a producer or a consumer? Give reasons for your answer.
4. Will a knowledge of how business is carried on help you to become a more efficient producer? In what ways?
5. Give 5 examples of being businesslike in your home.
6. List the kinds of business knowledges that you need in carrying on the activities of your home.
7. List the activities or organizations in your school that require business knowledge. What knowledges are needed in each activity or organization listed?
8. What knowledge should you as a consumer possess regarding your community?
9. What kinds of knowledges and skills does the grocer need to possess to be a successful business man in his retail store?
10. What knowledge of the community do you think he ought to have before establishing a business near your home?
11. Do you consider it a hardship or a privilege to earn your own living?
12. Jane Stearns says that she expects to be an interior decorator and therefore does not need to know anything about business. Is her reasoning correct? How would you advise her?
13. Businesslike habits are necessary for success in business. Study carefully the chart on the next page. Give the information asked for.

BUSINESS HABITS I SHOULD POSSESS

Name of Habit	My Meaning of It?	Do I Possess It?	How Can I Develop It?
Promptness			
Neatness			
Planning my work			
Accuracy			

ASSIGNMENT B—

Designed for students of ability who are capable of doing some teacher-directed creative work.

These topics are to be prepared in the form of reports to be given before the class and must be of sufficient merit to contribute to the growth of the group.

References given at the end of this lesson may be of value to the students in preparing the "B" assignment.

1. Select a commodity carried by the retail grocer and trace its preparation from the raw product to the finished article as the grocer buys it.
2. Make a list of the business services used in transporting the commodity selected in Question 1 from the place where it was produced to the shelf of the grocery store.
3. In former times each family produced everything it ate, wore, used. Suggest some of the things which you would have to do without if your family were forced to produce everything it used.

(These three items are only suggestive of those that would constitute "B" assignment projects that the student chose.)

ASSIGNMENT A—

For those students who are to be challenged through pupil suggested, creative work. These problems to be approved by the teacher.

SUGGESTED READING (not required)—

1. Splawn, W. H. M., and Bissell, W. B. *Introduction to the Study of Economics.* (*See* pp. 13–15 for what business is.)
2. Marshall, L. C. *The Story of Human Progress.* (*See* pp. 5–67 for an interesting description of the economic life of early peoples.)
3. Holbrook, H. L., and McGregor, A. L. *Our World of Work.* (*See* Chap. VI "The Work of Business," pp. 117–25.)
4. Rugg, Harold. *An Introduction to Problems of American Culture.* (*See* pp. 172 ff.)
5. Rugg, Harold. *An Introduction to American Civilization,* pp. 559–84.

Time and space do not permit the inclusion of the student's self-corrective test which will follow the completion of this lesson, nor do they permit the inclusion of the teacher's test, which has value in aiding the student to have the results of his own testing confirmed. The development of the self-appraisal powers is one of the most important aspects of the individualization method.

The Changing Character of Rural Life

By JOY ELMER MORGAN[1]

THE STORY OF THE REMOVAL OF INDUSTRY from the home and the neighborhood is familiar. The beginnings of the industrial revolution in the time of Charles Dickens led to those terrible abuses which are described in his writings and which his influence helped to reform. So long as industry was centered in the home and the neighborhood shop it was motivated by a desire for mutual service and happy relations between neighbors. As it became concentrated in larger units, the neighborhood spirit disappeared, the desire for larger profits and huge fortunes became the dominating motive. People were crowded together in cities under conditions so terrible that they could not be described from this platform. People accustomed to the wholesome atmosphere of the farm and the small community were herded together in mushroom cities without sanitation, without water, without police protection, without schools, without standards of humanity or decency to restrain the amazing greed and inhumanity of the new industrialists.

The conditions which we have today in this second mechanical revolution are simply the further and logical development of the forces which were at work in the time of Dickens. It is true there has been some progress: imprisonment for debt has been abolished; our cities are provided with pure water; we have taken some sanitary precautions; the richer sections of our cities have reasonable sanitary facilities. To a certain extent our milk and food supply is safeguarded. Our housing is improved, but it is still an abomination and breeder of crime. We have police systems in name if not in fact, and conditions are infinitely better, even in time of depression, than the conditions which aroused the humanity and the heart of Dickens.

The next stage in this world-wide drift toward corporate organization and management of the material side of life involves the corporate organization of agriculture. Already the trustification of agriculture is under way. Communities are being bought up by large capitalists. Homes are being torn down, schools dismantled, and even

[1] Editor, *Journal of the National Education Association.*

whole towns wiped off the map to give way to the activities of outside corporations who come with their hired men for a short period to plant and harvest a crop and then to vanish to the great financial and pleasure-loving centers.

Just as it was impossible for the home industry and the neighborhood shop to survive the onslaught of invention and scientific management in the large factory, it will be impossible for the individual farmer to survive the onslaught of industrialized agriculture. Multimillionaires living in New York, carrying none of the costs and responsibility for the management of local community affairs, will produce the farm commodities at costs so low as to drive the individual farmer, who must make his living off the land, quite out of existence. We will have wheat produced at 25 cents a bushel, butter at 25 cents a pound, eggs at a few cents a dozen. These statements are not wild fancies. They are merely expressions of existing fact. Not to bring such facts to the attention of our farm population is to ignore our plain duty to train young people to live in the world as it is.

Agriculture within the next twenty-five years faces a choice between feudalism and co-operation. Either it will be run by outsiders with enormous financial resources for private gain with the actual work being done by hired men with little control over their lives or destinies, or it will be done by a race of farmers trained not only in scientific agriculture but in all the arts and principles of co-operative enterprise.

The clear task of the rural school today is to revise its program in the light of these new needs. May I suggest tentatively as an approach to the problem the following steps: First, let there be established in the state department of education a division of rural education, staffed by the strongest experts that can be drawn from the agricultural colleges, from the rural schools, and from the teachers' colleges, to give leadership to rural education and to work out curriculum materials for use throughout the state. Second, let the rural schools be determined that their program is going to be built around the needs of the community which they serve and not around the requirements of colleges or universities or outside organizations to which their students may occasionally go. Hundreds of schools today are robbing the children in the lower grades, where the foundations of learning are laid, in order to maintain a high school that will satisfy the requirements of some college. High schools which need education for leisure to adapt young people to this new age, which need to teach the young people in the farm communities how to enjoy themselves in ways that are wholesome are dropping the music and the art teachers instead of the Latin and the mathematics teachers.

Every worthy superintendent, every school principal in the rural community, and every teacher today faces an obligation to come to grips with the fundamental values involved in education. We cannot escape our responsibility for interpreting to school boards and citizens the new point of view in education. If the rural schools are not right, if they are not teaching the things that will help the young people and help the communities, it is our business to know that fact and to bring it to the attention of the responsible authorities with such force, intelligence, and persistence as will bring about a change. It will do no good to go on preparing young people for a world that does not exist. If the schools do not stop wasting money on Latin and theoretical mathematics at a time when the farm population is literally being crushed for lack of information relating to farm life, some other institution will take the place of the schools, and they will be denied the support which they will not deserve.

I believe the very destiny of America is wrapped up in this question of rural education and rural life. Our cities are not centers of life; they are centers of death and destruction. The record of history is plain. The great civilizations of history have been wrecked by the forces lying loose in their large cities. We have in America at this moment the terrible spectacle of great cities unable to govern themselves, unable to maintain peace and decency, unable to pay their teachers and to maintain the great civil services. The city of Chicago today owes its teachers more than $20,000,000. Many teachers have lost all they had. Life insurance has been given up. In desperation teachers have gone to the loan sharks where they will be charged 30 to 40 per–cent interest on their small borrowings. This is not civilization; it is anarchy.

As cities are now managed they destroy the health and happiness of the people. The great Irish reformer, George Russell, who has made a lifelong study of the matter, says that it is practically impossible to find in any large city a single family that has survived the conditions of city life for more than four generations.

The question of rural life therefore lies at the very roots of national destiny. Our ability to survive as a nation and as a race depends upon our ability to develop the intelligence, the vigor, and the courage which we have associated with the farm community. The time may be at hand when people who work in cities and factories will live on the land, not as a means of earning a living, but as a means of making a life and providing a wholesome environment for their children. Such a day, if it is to come, can be brought about only through the teaching in our schools.

Either the people in the country will be exploited by powerful

forces outside themselves or they will take hold of their affairs through community co-operation and run those affairs for themselves. If chain stores threaten to sap the profits from the community's marketing operations, the community will establish its own markets. If outside bankers threaten to destroy the financial security and independence of the people, the community will establish its own bank. If outside interests establish prices for community products which will not sustain a fair standard of living, a community will draw together in co-operative marketing organizations; it will join with other communities in the state and the nation and even the world as a whole to exercise some control over products and prices. Thanks to the schools with all their weaknesses, we have in America a level of intelligence and training sufficient to establish a new order of economic and political life.

It has long been an impression among our people that the best opportunities could be found in the cities. Superintendents have left the country for the city. Strong teachers have left rural schools for town schools. Strong young men and women have been attracted like the moth by the glare and glamour of the city lights. The great opportunities today are not in the city. A reasonable amount of training and an average gift of leadership can accomplish more today in the small town or the country community than it can accomplish under the hectic and confusing conditions of city life, where the individual tends to be crushed by the sheer magnitude of the forces which surround him. It is a difficult thing to remove the pestilence of a great city slum. It is a relatively simple thing to bring new life and leadership to a small town where everyone is familiar with conditions and where neighbors can be led to co-operate in the interest of a better life for themselves and their children. It is from the leadership which develops in these small communities that we shall recruit tomorrow the leadership which must guide the affairs of the nation and the world.

Good Supervision as Good Thinking

By A. S. BARR[2]

THE CENTRAL THEME OF THE PAPER to follow is that supervision is good thinking. Before entering upon this discussion of good supervision as good thinking, I wish, however, to call attention to three facts which constitute the background of present-day supervision:

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first, the theory and practice of supervision have developed rapidly during the last quarter-century. The far-reaching character of the changes made during this period may be illustrated by the increase in the number and diversity of supervisory positions; by the changes in the functions of supervision; and by the rapid development of the theory of supervision. Referring merely to the last of these developments, it will be recalled that the first courses in the theory of supervision, as distinguished from administration, were introduced into the curriculum some two decades ago.[3] Since then many articles, monographs, and textbooks relating to the subject of supervision have appeared. The Department of Elementary School Principals has devoted several yearbooks to this subject. The Department of Superintendence devoted its Eighth Yearbook, and the Department of Supervisors and Directors of Instruction gave over its first five yearbooks to this subject.

The second of these facts to which I wish to call attention as part of the background of present-day supervision is the rapid development in rural-school supervision through the development of a larger school unit, thus facilitating supervision by the building principal; through the development of new standards of training for supervisors and teachers alike; and through the employment of special supervisors. The theory of rural-school supervision has been extended by the consideration of rural-school methods, of the general functions of rural education, and of rural-school supervision.

The third fact to which I wish to call attention as part of the background of present-day supervision is a tendency toward the continued development of this service. There are three factors operating to this end. First, there is a recognition of the fact that teachers cannot be trained in institutions. There was a time when educationalists believed that fully equipped teachers could be trained in teacher-training institutions. Partly because of a better recognition of the complexity of teaching and partly because of the natural limitations of the institutional training of teachers, such as time and practice facilities, this idea has given way to the idea that the institutional training of teachers is only preliminary to the continued training of teachers in service. This, of course, is in no way a reflection upon the fine quality of work done in our teacher-training institutions. Second, there has appeared during the last decade a new balance between administration and supervision. We have passed through a period in which the superintendent's chief interest appeared to be in finances, buildings, organization, supplies, equipment, and the more

[3] Nutt's *Supervision of Instruction* was published in 1920, and Burton's *Supervision and the Improvement of Teaching* in 1922.

material aspects of education rather than in the child, the curriculum, and the teaching. We have seen in the last ten years the revival of interest in the curriculum. I believe that this revival is only a part of the greater movement that must lead eventually to a rediscovery of the child and of the importance of good teaching. And a third factor leading to the continued development of supervision is a philosophical one, growing out of the evolving nature of society. Society, and consequently schools, are not fixed institutions. There appears to be a gradual reaching-out process on the part of man and mankind that calls for a continuous reconstruction of the school program, and this continuous reconstruction demands expert leadership. Out of these considerations the speaker has come to believe in the continued development of supervision.

I have considered thus far the successes of supervision. I wish, before entering upon the more constructive phases of this topic, to refer to certain shortcomings in supervision. There are six of these to which I should like to refer. First, supervision is frequently performed with little or no consciousness of the goals of education. Too many supervisors merely supervise; that is, perform the activities traditionally associated with supervision without giving much thought to the specific ends to be accomplished. If the schools are to contribute effectively to the larger program of social betterment that man has projected to attain his own ends, those intrusted with the direction of the educational process must be informed about the ultimate goals of society and the peculiar contribution expected of the institution for which they are responsible.

Second, the data-gathering devices used in supervision frequently lack validity, reliability, or objectivity. When one employs a test, informal or standardized, he is concerned with its validity, its reliability, and its objectivity. Supervisors employ many different sorts of data-gathering devices, such as tests, rating scales, check lists, interviews, and questionnaires. If supervision is not to be subject to unreconcilable errors of measurement, the principles of validity, reliability, and objectivity need to be applied to all data-gathering devices.

Third, the improvement programs of supervision are frequently of the mass-instruction type, general, and divorced from the needs of specific teachers, pupils, and classes. The conventional type of supervision with its teachers' meetings, bulletins, exhibits, and other techniques, valuable as they are, is primarily, after all, a method of mass instruction, and as such subject to the limitations of this type of instruction. While the supplying of general information on a large scale is not without value, as we all know, there is need for more

supervision centered upon the needs of specific teachers, pupils, and classes. We learn, for example, from observations, from reading, and from conversing with others that we should provide for individual differences, talk less, or make longer assignments, and we impose, under the conventional type of supervision, these things upon all teachers without regard to their real needs whatever these may be.

Fourth, there is often no comprehensive view of the products of learning. The products of learning are the abilities, knowledges, skills, attitudes, and ideals acquired by the pupils taught. They may be physical, mental, social, or moral. They may pertain to the pupil's abilities to maintain himself in society, his language activities, his health activities, his citizenship activities, his general social activities, his leisure-time activities, his religious activities, or to his future parental and vocational activities—concomitant and primary learnings.

Fifth, supervisors frequently take a too limited view of the causes of a pupil's unsatisfactory achievement, considering one, or two, or a few of the factors conditioning the products of learning to the neglect of others. There appear to the speaker to be eight major sources of poor work on the part of pupils: the equipment of the pupils; the equipment of the teacher; the objectives of the teacher; the subject-matter or curricular activities; the procedures of teaching; the process of learning; the materials of instruction; textbooks, supplies, and equipment; and the physical environment of the child and the teacher. Supervisors too frequently concern themselves merely with the teaching. Poor achievement on the part of the pupils may follow from an unsatisfactory physical environment, from an unsatisfactory curriculum, or from mistaken objectives. Supervisors need to keep this larger situation in mind.

Finally, the results of supervision are not evaluated or they are inadequately evaluated. Supervisors have not, as a rule, applied rigorous methods of measurement to the products of supervision. They have been more interested in the development of programs of activities than in the measurement of results. As a consequence, we have all kinds of programs of activities recommended by supervisors for the improvement of instruction without knowing much about their effectiveness. From general observation it would seem that many of these programs are effective enough, but closer study of them will doubtless show, as it has in other fields, that many of them are ineffective. Unfortunately, these activities start other activities in motion which in turn inspire still others, and so on, until, if the results of supervision are not known, not only isolated ineffective activities are allowed to creep into the methods of supervision, but also whole systems of ineffective methods of doing things are allowed to grow

up. Supervision today is decidedly hampered by many practices held there by tradition, practices that would be eliminated if adequate means of measuring the results of supervision were employed. If the methods of supervision are to be improved, steps must be taken toward the development of adequate means of measuring them.

The task of the supervisor may be likened to that of an expert mechanic who has an automobile to repair. Six steps are differentiable: he first checks the performance of the car; he looks for the cause or causes of unsatisfactory performance; from a preliminary survey of the facts at hand and from his past experiences with cars he formulates a hypothesis as to the probable cause or causes of unsatisfactory performance; he checks the absence or presence of the supposed cause or causes; he makes the necessary repairs; and he rechecks the performance.

This analogy is a useful one in supervision. If you are not already using it, try it sometime: first, check the performance of the pupils (the ultimate goal of supervision is the improvement of the products of learning); then think of the most probable cause or causes of the pupil's unsatisfactory performance (if the performance is unsatisfactory); institute an improvement program in terms of the needs of the specific teachers, pupils, or classes under supervision; and, finally, recheck the performance of the pupils. I have found this analogy a useful one in clarifying my own thinking about the processes of supervision.

Supervision may also be viewed as experimental thinking, in which one introduces an experimental factor as, for example, a new curriculum, a new method of teaching, a new environment, and measures the resulting change in the products of learning. While it is obviously not always possible to employ the rigid controls of laboratory experimentation, the analogy is a helpful one. If you are not accustomed to the scientific procedure start with some simple experiment, such as the following: observe the attention of the class at a given moment, then introduce a change in teaching procedure, and observe the resulting change in the amount of attention.

Finally, I sometimes like to think of supervision as scientific problem solving. Much has been accomplished during the last two decades toward replacing the *memoriter* type of education in the classroom by reflective thinking and problem solving. Just as this innovation has been looked upon as an improvement in the technique of teaching, I believe that a similar innovation introduced into the training of teachers in service would be looked upon as an improvement of the technique of supervision. I do not have in mind the

formal experimentation of the laboratory but informal scientific thinking, applied to the improvement of teaching. Such a movement would bear about the same relationship to the formal experimentation of the laboratory as informal tests bear to standardized tests. I should like to commend this movement to you for your consideration.

There are many ramifications of the three approaches to the supervision of teaching set forth here: supervision as diagnostic thinking, as experimental thinking, and as scientific problem solving. Space does not permit a fuller discussion of them at this time.[4] I hope as time goes on that supervisors will consider the subject of supervision not as the tricks of the trade, but as a study in good thinking.

County Departments and Supervision

By KATE M. OFFERMAN[5]

During the last fifteen years instructional supervision of rural schools has become a professional reality in many parts of the United States. There has been a general consensus on the part of state and county superintendents that there is need for professional supervisory assistance if effective school work is to be accomplished in village and rural schools. This specialized field of supervision, having for its purpose the improvement of instruction, may be considered an important development of the past decade.

The Committee on Rural Education of the National Education Association during the past year had for its motto, "Equal opportunities for the rural child." If equal opportunity is to remain the slogan for county departments they must have: an organization that makes a distinction between administration and instructional supervision; co-operation that seeks the welfare of village and rural schools; leaders who are trained for effective supervision; supervisory activities that are based on facts; county-wide plans and programs for effective procedures; supervisors, teachers, and pupils who budget time; and an evaluation of teaching and supervisory results.

When an organization makes a distinction between administration and instructional supervision, the administrative organization and the administrative machinery are then judged in the light of their ability to improve the quality of instruction rendered. The supervisory service is of greater value to children and teachers than the service that comes from the performance of administrative and

[4] Three good treatments of this point of view will be found in Jevon's *Principles of Science*, Westaway's *Scientific Method*, and Creighton's *Introduction to Logic*.

[5] Assistant County Superintendent of Schools, Wood County.

inspectoral duties only. Instructional supervision calls for specialized training, and it is instructional supervision that lifts teachers and pupils from levels of failure to levels of success. Administrative and inspectoral duties cannot do this without the help of supervisory activities.

When a county department definitely assumes the function of improving instruction, it works directly for a co-operation that will continue to dignify rural education, to dignify it even during a time of economic distress. During such a period it becomes necessary to do more than merely ask for supervision. It may become necessary to purchase it through expenditure of energy and through the exercise of intelligence. Rural education must remain a part of Ohio's general education and not a thing apart from it. Rural departments cannot afford to let their schools become inefficient; they must improve them. Now is the time for all rural departments to join with other organizations, interested in the welfare of rural children, to urge the need of legislation which will provide a considerable portion of the funds needed for the support of village and rural schools and also provide the means for effective supervision from state funds. Temporarily, it may be wiser to spend a little less money for good roads and a little more for good schools.

Qualified supervisors are necessary in every county where the department seeks to look ahead and to plan for the future. The county plan can provide officers charged with helping teachers, a professional service which the community cannot pay for alone. Such schools through co-operative service can have a curriculum to meet present-day needs; a definite plan that assures to every child elementary-school and secondary-school opportunities; leadership that co-operates with superintendents, principals, and teachers, that assumes the responsibility for the co-ordination, integration, and capitalization of resources within the county system, to stimulate activities leading to teacher growth, such activities being, in part, case studies, diagnostic and remedial work, experimental teaching, and research endeavors.

When a county department seeks effective supervision it cannot be satisfied until it bases its supervisory activities on facts, facts that assist in giving not only a plan but a program for supervision. Definitely planned programs that help pupils and teachers to grow ought to be common in all rural units. A recent study covering forty states indicates that less than twenty-five per cent of the rural supervisors formulate objectives and procedures for their work. Are we checking for objectives, plans, and programs that rural children need?

The Wood County program for the present year has among its objectives the following: determining causes of unsatisfactory pupil

achievements; doing remedial work to eliminate unnecessary failures in school work; checking with pupils and parents to eliminate physical, environmental, personal, or mental problems; guiding and directing pupils for more effective study habits; checking the teaching of spelling through experimental work. The objectives are determined each year through field work, observation, testing, and experimental work. The aim is to make supervision a co-operative and democratic undertaking of supervisors, superintendents, and teachers.

When the concerns of a county department are of the supervisory type the organization budgets the time of supervisors, and they in turn direct and guide until the time of teachers and pupils is so effectively planned that pupils reach desirable objectives, not only information, but skills, habits, attitudes, and appreciations. This means seeking professional growth of both teachers and supervisors.

A county department can further develop effective supervision by planning and directing for an objective evaluation of teaching and supervisory procedures. There are sufficient studies from rural districts that prove that schools make greater progress where checking is done for effective results. Subject reports, or county graphs, that follow a testing program or experimental work, give teachers an opportunity of comparing school results with the medians of the county. In the schools where the medians are below standard, diagnostic and remedial work can follow to lift classes to higher levels of success through suggestions that can come from trained, experienced, and sympathetic supervisors. The points emphasized for effective supervision may be summarized in the statements which follow.

Effective supervision in county districts depends on a clear distinction between supervisory and administrative duties. It can be secured through activities that are democratic and co-operative, but must be purchased through the price of intelligent endeavor. To hold this, county units must have leaders who are prepared and who have a broad vision. Effective supervision can be secured through a fact basis for county plans and programs. The county plans and programs are a necessity where a county department seeks the promotion of the professional growth of teachers and supervisors. Effective supervision can be secured when supervisors, teachers, and pupils budget their time for effective work, and it depends on an objective evaluation of both teaching and supervisory results.

Where such major points are emphasized, county departments are promoting effective supervision, and county boards cannot afford to abridge educational services. Such an abridgment of service and leadership may become an abiding misfortune to the present generation, the evil effects of which may even reveal themselves more in

the next generation of rural youth. Such an abridgment of service during economic distress would be penny wise and pound foolish.

Ohio's Rural School Problem

By B. O. SKINNER[6]

THE TITLE OF THIS PAPER might better be phrased, "Ohio's Rural Education Problem," for, after all, are not the schools only a means to an end? In order to get what is best, we need to understand clearly the objective toward which we should be working. At this point, then, let me call attention to a few definitions of education which seem to me to be pertinent. Mr. Starch, speaking from the standpoint of the teacher, says: "Education consists in producing useful changes in human beings." Ruskin says:

> Education does not mean teaching people what they do not know. It means teaching them to behave as they do not behave. It is not teaching the youth the shapes of letters and the tricks of numbers, and then leaving them to turn their arithmetic to roguery and their literature to lust. It means training them into the perfect exercise and kingly continence of their bodies and souls. It is a painful, continual, and difficult work, to be done by kindness, by watching, by warning, by precept, and by praise; but above all—by example.

A recent writer has said, "Education is the art of making living itself an art. It is the achievement of human excellence; it transcends both the useful and the ornamental. It is a way of life, just as truly as the religious life is a way of life."

These, then, are the ideals toward which we strive, and the question to be answered is, How can it best be done?

In discussing the problem of rural education, six questions frame themselves in my mind: What is a good rural school? What type of building and district shall we have? What shall the curriculum include? What factors of local government help; and what hinder? At what points is centralization of authority good, and where is it harmful? How can an adequate program be financed under present conditions and under conditions likely to hold for the next few years?

The answer to the question, What is a good rural school? is given in the definitions just quoted—a place where useful changes take place; where young persons are taught to act as they have not acted; where children do not learn to turn their arithmetic to roguery and their literature to lust; where kindness, watching, and warning

[6] Ohio Director of Education.

take place, but above all, where children learn by example. It is a place where living itself is made an art. All these things imply that the teacher, not the house, is the important thing.

If all this is true, it would seem that the type of building does not make any material difference. While it may be possible to have a good school in a poor building, it is certainly desirable that the building be comfortable and that the surroundings be made as attractive as possible. The pioneer built his log house in the wilderness, but, as soon as he was able, he erected a better one. Possibly in the past decades we have overspent in the belief that prosperity would always continue. This characteristic is one common to the individual man and to the group composed of individuals. In the future, a most careful check will certainly be made to find out whether or not the community will have the ability to pay.

Then what of the district? Here, again, common sense should dictate. In the past seventeen years, one-room schools have disappeared at the rate of one per day. The centralized or consolidated school has come to stay and as good roads are extended will, in all likelihood, increase in number but probably not at the rate of the past few years. The replacement of buildings worth practically nothing by the more expensive type will retard the activity rate of the past few years, although the erection of buildings on a low market, to be paid for in better times, would be sound business.

One of the great needs is for men and women who know how to administer and supervise. While much criticism in times like these is leveled at the supervisory staff, there is no doubt that good supervisors often save their salaries or more in developing teachers to a higher level of efficiency. The time of forty children lost for one year through poor teaching is really a great economic loss, to say nothing of the loss to society in terms of the spirit. Too often supervisory offices are filled by those who know nothing about how to improve the service and who have little interest, aside from the fact that the new position carries an additional stipend. Certainly, persons who are chosen for these positions should be required to get some training, which could possibly be given in a summer, provided the individual appointed would carry on the effort to discover what is best in procedure for the office which he fills.

In the next place we are led to inquire about the curriculum. The first six years are pretty well established, but, when we come to the junior and senior high-school courses, there is considerable doubt as to what should be done. In these days, when it seems that certain economies must be effected, there is a tendency to eliminate from the course those things which came in last. Intensive study should be

made of the situation and economies should be applied where the least damage is done. Entirely too often the offerings of the small high school are so broad that skillful teaching in every subject is impossible. The three-teacher first-grade high school, which group includes more than 20 per cent of our first-grade schools, is probably the most expensive and least efficient unit of our educational system.

As to what is best in the government of the schools, we must agree that an intelligent, unprejudiced, consecrated local management is probably best. In so many cases, however, inefficient, selfish individuals control such management with the result that innocent childhood must suffer.

> For forms of government let fools contest;
> Whate'er is best administered is best.

One of the weakest links in our rural system is the clerk of the local board of education, for there are a large number of inefficient persons elected to this office, some not knowing how to keep books, some not caring, and others neither knowing nor caring. For the work done and the time spent, this group is composed of persons who receive the highest pay of any of those on the public pay roll. A competent fiscal officer in a central place in each county would add greatly to the efficiency of the school system, at a saving of approximately $100,000 per year.

In the last place, and in the minds of many, the most important subject is that of getting the money to finance the schools. In all except a few instances, wealth is not found where these rural schools are and, as a consequence, opportunity for educational equality does not exist. This problem is one which has confronted every state in the Union and for a long time the principle of equalization of educational opportunity has been recognized. A few states, including New York, North Carolina, Alabama, Arkansas, and Missouri, have, to say the least, gone a long way. The inequality existing in Ohio is most striking: the poorest district having behind each child $900 of wealth, the wealthiest, $240,000, or nearly three hundred times as much. This calls for some sort of equalization, a fair and sporting proposition.

If ever there was a time which called for co-operation and fair dealing, this is that time. If there is one plea to be made, it would be not to do hastily things for which this generation and the next will be sorry. "Our theory of education rests first on the principle that popular government can exist only in company with popular education. The attempt to operate a democracy with an unenlightened people must be, in the words of Madison, 'but a prologue to a farce or a tragedy, or perhaps both.' "

Measuring Integration

By HUGH HARTSHORNE[1]

THE PURPOSE OF THIS PAPER is to bring together in a single discussion a variety of proposals for the measurement of integration. The form in which these proposals shall be presented is the form they took in the Character Education Inquiry.[2] The view of human nature to which this Inquiry lends support emphasizes the interplay of two diverse tendencies, the one to form specific bonds between particular situations and particular responses, and the other to organize these responses into more effective instruments of adjustment. Measurement of relationship begins where integration begins, and reports the extent to which specificity has given way to integration. In view of the rapidity with which organisms assimilate new experiences, measures of integration do not have in themselves the relatively permanent validity of physical measures. Consequently, in efforts to measure the integrative process, one of the most important considerations is the rate at which the responses of the individual are being reorganized into changing and growing behavior patterns. The integrative process is itself specific to the individual. No cross-sectional measure which is not also a measure of rate and direction of change is adequate as a measure of the integrative process. In other words, repeated measures are necessary for the measurement of any organic mode of behavior.

None of the procedures used in connection with the Character Education Inquiry can be regarded as highly successful, but together they constitute an interesting broadside upon this difficult problem. Methods were tried out which attempted to measure, respectively, variability of performance, self-integration, social integration, and social self-integration. These will be outlined in turn.

A correlation scattergram portrays the varying amounts of integration characteristic of the individuals measured. Some individuals contribute more than others to the consistency which is reflected in the coefficient of correlation. Now if the performance of these same

[1] Yale University.

[2] Hartshorne, Hugh, May, Mark A., *et al. Studies in the Nature of Character.* Three volumes in the series have appeared.

individuals is observed in a series of such scattergrams involving related modes of conduct, it is at once apparent that some tend more than others to lie always along the diagonal; that is, some contribute more than others to the consistency which is reflected in the average intercorrelation of a series of measures.

In an endeavor to obtain a total character score indicative of both achievement and consistency, a selection of 100 cases was made for which complete records were available. For these cases a score representing average deviation on 23 measures, including conduct, knowledge, attitude, intelligence, cultural level, and emotional stability, was combined with a score representing the individual's variability on these scores around his own central tendency (in terms of his deviation from the mean of the group), so as to give a total score in which achievement and variability, or its opposite, consistency, were equally represented. This we regarded as our nearest approach to a character score based on the measurement and correlation of specifics.

Valuable as is this technique, it falls short of an ideal method for measuring integration of performance in complex situations for reasons already suggested. We have, indeed, objective evidence of variability versus consistency of performance. But whether such consistency as appears in terms of so complex a concept as deceit is anything more than the fortuitous accumulation of experiences of failure to get away with deceit is another question. In other words, we have evidence of consistency, but we do not know what kind of integration is reflected by this consistency. In the case of the work of the Character Education Inquiry, it was inferred that inner ethical integration was reflected by honest-deceptive performance, in view of the universality of ethical teaching regarding honesty. If this inference is correct, then it is of no small concern to educators that so far our efforts to teach honesty have resulted in an average ethical integration hardly superior to what chance alone would provide.

Rather than leave the question of ethical or inner organization on the plane of inference, the Inquiry attempted some direct measures of correspondence between performance and standards of performance, and between performance and drives or sentiments.

A paragraph will suffice to bring to the reader's mind the work done by the Inquiry and by many others in the attempt to show the degree of relation subsisting between knowledge and conduct. Ideals and standards bearing upon the types of conduct objectively measured were in their turn measured by means of verbal tests. Again, on the whole, only slight correspondence appeared between what was recog-

nized intellectually as correct behavior and behavior itself. Our concern, however, is not so much with results, save as consistency among techniques increases confidence in their validity. Our major interest is in the technique itself. With this effort to measure knowledge by one test and conduct by another and then to correlate the two measures, we find certain difficulties. In each case, the measure is a deviation from a group mean, and there is no manner of knowing just what deviation in knowledge or deviation in conduct may mean to the individual, not even whether they mean the same thing, or whether they mean the same thing to different individuals. It is quite conceivable that a person might consistently seek his own advantage, but in seeking it might recognize that he was sometimes violating recognized standards. He would acknowledge that it was sometimes useful to cheat and sometimes more useful not to. Hence, he would appear inconsistent on one kind of scale and consistent on another.

Only one effort was made to strike at this second type of consistency, drives or sentiments. Using a device commended by the work of Knight, Franzen, Watson, and others, Mr. Sweet devised a test which would, he claimed, measure a type of inner consistency not revealed by the usual correlation technique. With reference to a large number of modes of conduct, each subject stated, "how I feel," "how most boys feel," and "how I think I ought to feel," rating his attitude as "dislike," "rather not," "don't care," "like some," or "like a lot."[3] Such items as these were included: "always doing what my parents tell me"; "helping around home"; "listening to music"; "keeping my things in order." Since all three responses were made to each item, several relationships were automatically revealed: judgments or preferences; judgments about self with others' judgments about one's self; and judgments about others with others' judgments about themselves.

Thus several types of integration score are made possible. These are called: Social Insight, how I think others feel as compared with how they do feel; Deviation from the Group Idea of the Right, how I ought to feel as compared with how most boys feel; Feeling of Difference, how I feel as compared with how I think others feel; Self-criticism, how I feel as compared with how I think I ought to feel; and Criticism of Others, how I think I ought to feel as compared with how I think others feel.

The validity and the reliability of this technique seem fairly well established, and the split-form reliability coefficients of .76 to .94 for various modes of response suggest a degree of inner emotional

[3]Sweet, Lennig. *The Measurement of Personal Attitudes in Younger Boys*, 1929. p. 7.

consistency which is not apparent when more intellectualized behavior is involved.[4] This technique, however, is only a self-rating one and in itself does not get us beyond a feeling of consistency. It does not give us objective evidence of integration in performance, of actual, successful adjustment to external conditions.

It is one of the shortcomings of a test program that the situations are so limited in variety and number that an adequate sampling of an individual's performance is almost wholly impracticable. A logically complete system of objective measurement would involve a plan for the continuous retesting of individuals from birth to death. Long acquaintance provides something in the way of depth of insight, and variety of acquaintance affords something in the way of breadth of insight. For lack of adequate, objective samplings we may therefore take a person's reputation with a number of individuals who have known him for a long time, each in different connections and circumstances. The Character Education Inquiry built up an elaborate plan for securing such reputations.[5]

Different sorts of conduct were described and the rater was asked to indicate by an appropriate symbol the extent to which, according to his experience, the subject tended to exhibit each type. To the extent that the judges knew the subjects and could report objectively what they had seen, the resulting score is itself a generalization and includes a wide sampling of conduct. Back of each record is a more or less extended case study.

Three types of procedure were used. One, called the Conduct Record, stated which of several kinds of conduct best characterized the individual's usual behavior. Thus the following phrases occurred as descriptive of degrees of co-operative activity:

1. Works with others if asked to do so.
2. Works better alone; cannot get along with others.
3. Works well and gladly with others.
4. Is indifferent as to whether or not he works with others.
5. Is usually antagonistic or obstructive to joint effort.

Similar analyses were given for some twenty different categories. The plan called for the use of this instrument by two teachers and two adults in a leadership relation to the subject outside school.

Another instrument consisted of a list of 80 pairs of antonyms indicative of contrasted types of conduct. The judge was requested to check as many of the words as applied to the subject. As extremes

[4] *Op. cit.*, p. 48.

[5] The techniques are described in May, M. A., and Hartshorne, H. "Recent Improvements in Devices for Rating Character," *Journal of Social Psychology*, 1 (February, 1930), pp. 66–67.

were named and more moderate words omitted, the tendency was for the colorless individual to receive few checks, thus being placed automatically in the center of a scale running from plus to minus. Different values were assigned to the words according to the frequency with which they were checked in judging a large population. The list was printed in two forms, both of which were to be used at different times by two teachers and by two outsiders.

In practice, the Inquiry could not secure enough outside judgments to warrant their inclusion in a total reputation score but was obliged to confine itself to school reputation, based, in most cases, on the judgments of two teachers and the judgment of each pupil's classmates as found in the third of the devices used. This was called the "Guess Who" test. It consisted of 24 little word pictures of individuals, each picture emphasizing a particular type of conduct; for example, "This is a jolly good fellow—friendly with everyone, no matter who they are." "This one is always picking on others and annoying them." Each pupil in the room wrote in the names of their classmates who fitted each picture. In this way a composite judgment for each pupil, representing the combined opinions of all his classmates, was secured. A score of plus one was assigned for each mention of a name under a "good" type of conduct and a score of minus one for each mention of a name under a "bad" type of conduct.

By assembling in a single reputation score all these judgments of teachers and fellow-pupils as to the types of conduct most characteristic of a subject in a variety of situations, a more general view of the individual's success in meeting his social situations was possible than by the use of a few tests of conduct. But even here, the attention of the judges was not on the relational aspect of conduct, but rather on a series of acts or responses, more or less isolated from the situation in which they occurred. It became increasingly apparent that this fragmentary treatment of the facts of human behavior failed to reveal in an adequate fashion the integrative or functioning aspect of behavior, which must include in one purview the whole child in relation to his whole milieu. To expect to measure such a complex fact was on the face of it quixotic. It would seem impossible from the outset to reduce behavior as a whole to a unilinear scale. On the other hand, it was precisely a unilinear view of behavior as a whole for which we were looking, a view which would make possible the arrangement of individuals on a scale ranging from the absence of a quality called integration, by equal steps or amounts of this quality, to a hypothetical perfection or completeness, a maximal amount of this quality represented in the conduct of the members of a perfectly functioning group.

Two attempts were made to deal concretely with the functioning process, the one consisting of the building of a graphic character scale in the form of thumb-nail sketches or case studies of 100 individuals, and the other consisting of a device for estimating both the amount and quality of functioning activity characteristic of the subjects.

The complete records, pen portraits, for 100 children were combined in one-page sketches which summarized the results of many hours of objective testing of conduct, knowledge, and attitude as well as the subject's reputation with teachers, leaders, and friends. These sketches were then treated as real children (of course they were the portraits of real children) and were placed by 63 judges in 11 piles representing increasing degrees or amounts of "character." Each judge could use any idea of character he possessed in rating the subjects, but the close agreement of the judges is represented by a reliability coefficient of .985; that is, the result of this effort was the construction of a scale of character. No attempt was made to equalize the steps on this scale, but each step was defined by one or more cases placed reliably lower than some and higher than some.

Thus we had something like a handwriting scale or composition scale of character as a whole. The judgments expressed took into consideration not merely specific achievements in honesty, good nature, or what not, but also the bearing of the different modes of response upon one another. The slight intercorrelation of these modes of response limits the ethical significance of a merely statistical summary of specific scores. Such scales might prove useful in noting progress, not in specifics, but in the achievement of co-ordinated, unified, consistent, integrated adjustment to one's surroundings, so far as this aspect of growth is reflected in the total impression made upon others who know all the relevant facts.

The trouble with this portrait scheme, however, is its unpracticability. It cost 30 hours of pupil time to take the tests involved, and a total of about 800 hours of labor in addition to produce this one scale. For ordinary purposes some other approach is needed.

In our effort to simplify our procedure we also attempted to deal more directly with the facts which seemed essential for our immediate purpose, that is, the measurement of the integrative or functional aspect of behavior. It was necessary to adopt for purposes of the experiment a definite theory of the characteristics of integrative action.

Briefly we set down a few minimal essentials. An act may be regarded as a function, or as integrative, when it is performed willingly, with appreciation of its practical and social purpose, with command of the practical and social skills involved in carrying it on, with a sense of fellowship with the group with whom or for whom it is

performed, and with perspective as to its larger meaning in the life of the world. Few acts would qualify as genuine functions according to this set of criteria; that is, there are few points in experience where we now act as real persons, where we react with our whole selves toward the whole environment. The viewpoint adopted here, however, is that growth in character takes place in proportion as such acts as those just described occur. That is, it is through satisfying participation in creative group experience that character is formed, and such character consists in the concrete relationships which emerge from the potential patterns of interaction formed by such experience. One is not dealing here merely with specific acts, no matter how valuable these acts may be for social welfare. One is also concerned with the individual's own comprehension of the value of these acts and his intelligent participation in choosing them and in carrying them on. Social self-integration is this sort of interrelational acting, and it grows in proportion as growing insight, skill, and attitude increase the amount and success of social functioning.

Although these categories seem complex at first glance, they are really no more difficult to apply to conduct than the traditional traits which we have been engaged in rating for many years. The difference is that our attention is here not upon isolated acts nor on general ethical qualities of acts or persons, but upon those characteristics of action which lift it from the level of mechanical repetition to the level of meaningful participation. It is claimed that the measurement of integration must be by some method which takes these facts into account.

The method adopted by the Inquiry as a preliminary suggestion for getting at these aspects of behavior will be briefly summarized at this point. In the first place, a few characteristic groups in which a child presumably functioned with greater or less success were selected for analysis. The groups used were school, home, club, and Sunday school. Characteristic activities of each group were listed, with blanks for additional activities. In relation to each activity, the judge was asked to indicate on a scale of 0, 1, or 2 the degree in which the act showed pleasure, social purpose, skill in co-operation, and social spirit. The following paragraphs are used to define these terms:

The records for each activity are put in five columns. Mark all activities in one column before taking up another column. Consider each column independently of the rest.

Column 1: Pleasure in Act.—Does he or she enjoy doing the thing named at the left? If he takes no pleasure in it, put a check under the 0. If he likes it moderately, put a check under the 1. If he enjoys doing it very much, put a check under the 2.

Column 2: Social Purpose.—Does he realize that what he does is of service to the family group? If he has no sense of social purpose in the act, put a check under the 0. If he has a vague idea of being useful, put a check under the 1. If he shows high social purpose and is eager to be of service to the group, put a check under the 2.

Column 3: Skill in Co-operation.—If the act is done with others, does he co-operate well with them—fit himself into their habits, needs, peculiarities, and schedules, etc.? If he entirely lacks skill in co-operation, put a check under the 0. If he just "gets along," put a check under the 1. If he shows fine social feeling and skill in adjustment to others, put a check under the 2.

Column 4: Social Spirit.—Co-operation requires not only skill but also a certain spirit. Does he make himself agreeable to others; do they enjoy working with him and does he enjoy working with them? Has he the spirit of co-operation? If he seems to lack it altogether, put a check under the 0. If he is moderately friendly, put a check under the 1. If he has a splendid spirit of co-operation, put a check under the 2.

Thus for the record of co-operation at home, such items as these were graded 0, 1, or 2 under each category: dusting, cleaning, washing dishes, keeping things in order, caring for younger children, keeping family accounts, doing errands, entertaining house guests, caring for the yard. A score for each group was found by adding the values assigned to each item under the various categories and dividing the total for all items by the number of items included.

All this shows the child's performance from the point of view of an observer. It does not take the child's own views into consideration. Hence a Work Chart was made, which covered the same range of activities in the same groups but was filled out by the child. With reference to each activity he was asked to state whether he did it regularly, seldom, or never, whether or not he enjoyed doing it, and whether or not he did it well. A "self-functioning" score for all his group relations was found by giving a low value for any sort of participation, and increasing values for regularity, joy, and skill.

So far, however, the child's appreciation of the practical and social purpose of such acts has not been indicated. Therefore a third instrument was used which gave the pupils an opportunity to assign to a number of typical activities in home, school, and club an appropriate practical and social purpose; for example,

Why does one keep one's room in order? (Check only two answers)

5	( )	1	To have things neat
1	( )	2	To earn some money (To earn one's weekly allowance)
5	( )	3	To have a nice home
2	( )	4	To be obedient
3	( )	5	To help mother

The score values for the various replies are given at the left of the lines. The answers given the highest score are those which represent the clearest appreciation of the basic practical and social purpose of the act named.

The total scores from each of these three instruments could be combined in a single score representative of the degree to which social self-integration has been achieved by the subject. The Character Education Inquiry limited most of its work with this device to the self-functioning score derived from the Work Chart and the Reasons for Doing Things, which had a combined reliability coefficient of .79, indicating, as in the case of the Sweet test already referred to, a relatively high sense of consistency on the part of the average child, a feeling by no means corresponding to the degree of consistency actually noted in the average child's overt behavior.

Obviously, a total picture of functioning must include both the child's view of his acts and some evidence of his actual performance as a functioning member of his groups. Such a program of measurement waits upon more adequate analyses of that which constitutes the essential functions of the groups to which a child belongs and upon some reliable method of observing or otherwise reporting the social and practical skills exhibited by the members in the performance of these functions. The instruments used by the Character Education Inquiry are offered as a preliminary step in the construction of a direct measure of integration. It is possible that with suitable instruments this technique may afford a more meaningful measure of character than can be secured by the expenditure of an equivalent amount of time either on the customary rating processes or on objective tests of conduct.

The Measurement of Social Attitudes

By L. L. THURSTONE[6]

BEFORE PRESENTING A BRIEF SUMMARY of our experimental work on the measurement of social attitude I shall define the meaning of the term "attitude" used in these studies, in order to avoid the ambiguities that may arise because of the various interpretations often placed upon the word. By "social attitude" I mean the degree of affect for or against a social stimulus. A social stimulus is anything which can be provocative of an affective reaction of the percipient, such as a slogan, a name, some public policy, a gesture, or a

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person. We are here dealing with affect, feeling, and emotion as distinguished from the intellectual and cognitive aspect of mind which has been traditionally the concern of schools.

In order to illustrate further the nature of the social phenomena with which we are concerned in measuring attitudes, let us take an example. Suppose that I were to read to an audience a list of statements about communism. Suppose that some of these statements were strongly derogatory, some were neutral, while others were strongly favorable to communism. If I should ask persons present to indicate the indorsements or rejections for each one of the statements, I might discover that the great majority of the audience were strongly opposed to communism. Suppose that the records showed that most of them hated communism, that they considered it a terrible influence in our culture, and that they thought it should be expelled. Suppose further that I should ask all of them to write out a statement of just what it is that they have been talking about when they had expressed themselves against communism. I might discover that there were hardly two statements alike in the audience. Two aspects of the phenomenon of social attitude that I want to set out in sharp contrast are presented: the records might show that the members of the audience all agreed in their negative affective reaction to the stimulus "communism." There might be agreement in that the stimulus called forth negative affect, negative feeling tone, a reaction against this stimulus "communism." That is the affective or emotional side of social attitudes. While these persons were agreed in their negative reaction toward the social stimulus "communism," they might be in total disagreement or in chaos on the cognitive or intellectual side of the question in that they might really not know much about communism. Or they might disagree in what they regarded to be the essential factors of this social stimulus toward which they reacted. It might happen that on the emotional side they were agreed, while on the intellectual or cognitive side they were in conspicuous disagreement.

The essential attribute in measuring social attitudes is the affective or emotional response to a social issue regarded as a stimulus. The informational or intellectual side of the problem will not be considered. Well-known methods are in general use for measuring people's information about various subjects. The measurement of the affective or emotional reaction now challenges our attention.

There are two psychophysical methods that have been used in the measurement of social attitudes. One of these is called the "paired comparison procedure" and the other, the "statement scale procedure."

If we want to study the attitudes of a group of people toward

foreign nationalities, we can arrange these nationalities in pairs. We ask each individual to check that one of each pair of nationalities which he would rather associate with. On the basis of such records it is possible to assign an affective scale value to each one of the nationalities. Such a list is descriptive of the group of individuals. Occasionally I run into an objection to this form that the scale values of the nationalities are determined largely by the form of question asked, and this seems reasonable, but as a matter of fact the scale values of the nationalities are to a considerable extent independent of the detailed form of the question. One of my students, Mr. Fred Eggan, set up an experiment in which 300 individuals were asked to check one of each pair of nationalities to indicate which one of the pair they would rather associate with. Twenty nationalities were arranged in all possible pairs, and the result was 190 pairs.

The first few rows of pairs in this test, together with the directions, are given here:

A STUDY OF NATIONALITY PREFERENCES

Write your name here.....

Boy or girl.....Age.....Grade.....

Father born in.....Mother born in.....

(Name of Country) (Name of Country)

This is a study of attitudes toward nationalities. You are asked to underline the one nationality of each pair that you would rather associate with. For example, the first pair is:

Englishman-Norwegian

If, in general, you prefer to associate with Englishmen rather than with Norwegians, underline Englishman. If you prefer, in general to associate with Norwegians, underline Norwegian. If you find it difficult to decide for any pair, be sure to underline one of them anyway. If two nationalities are about equally well liked, they will have about the same number of underlinings in all of the papers. Be sure to underline one of each pair even if you have to guess.

Englishman-Norwegian	Russian-Austrian	Irishman-Belgian
Swede-Belgian	Norwegian-Spaniard	Swede-Norwegian
Russian-Norwegian	Frenchman-German	Greek-Irishman
Norwegian-Italian	Greek-Pole	Irishman-Frenchman
Pole-Russian	German-Austrian	German-Norwegian
Norwegian-Irishman	Irishman-German	Scotchman-Belgian

Three hundred subjects in a second group were given a similar schedule with the request that they check the one of each pair of nationalities with which they would rather do business; other students were asked which nationality they would rather have their sisters marry; still others were asked which nationality they would

rather have as fellow-students. The groups were assigned entirely at random, so that the studies would be comparable. It was interesting to discover that the scale values for the twenty nationalities fell in the same rank order for each question. This indicates that judgments of this kind are composed of an important affective core which determines our attitude of friendliness or by unfriendliness and that this effective response is modified in part only by intellectual considerations.

The statement-scale procedure consists in arranging a list of opinions on the issue in question in such a manner that they constitute an equally graduated sequence from those opinions which reflect attitude strongly favorable to the social object to those opinions which reflect attitude strongly opposed to the social object. This is done by the method of equal-appearing intervals, a psychophysical experimental method which will not here be described in detail. The statement scale consists of an evenly graduated sequence of twenty or thirty statements of opinion about an issue. The subjects are asked to mark "plus" those statements with which they agree and to mark "minus" those statements with which they disagree. They may leave blank or they may question statements about which they are in doubt. Every statement is given a scale value, and the score for each person is the average scale value of all the statements that he has indorsed.

The statement scale used in a study of attitude toward German people is included here in its entirety with the exception of the spaces left for the pupil's name and so forth which are similar to those used in A Study of Nationality Preferences:

This is a study of attitudes toward German people. On the other side of this page you will find a number of statements expressing different attitudes toward the Germans.

Try to indicate either agreement or disagreement for each statement. If you simply cannot decide about a statement you may mark it with a question mark.

This is not an examination. There are no right or wrong answers to these statements. This is simply a study of people's attitudes toward German people. Please indicate your own convictions by a check mark when you agree and by a cross when you disagree.

( ) 1. The Germans as a race are very pleasant people.
( ) 2. I'm prejudiced against people of German descent.
( ) 3. German people are no better and no worse than any other people.
( ) 4. I admire the German people unreservedly.
( ) 5. The German people are the most despicable people in the world.
( ) 6. Some of our best American citizens are of German descent.

( ) 7. The German people are the finest in the world.
( ) 8. The German soldiers were, almost without exception, cruel and brutal.
( ) 9. Germans are slow and unimaginative.
( ) 10. The more I know about the German people the better I like them.
( ) 11. If Germany had been wiped out by the war the world would be better off.
( ) 12. I don't object to German people but I don't like the German Government.
( ) 13. The German people were not responsible for and did not want war.
( ) 14. I don't trust the Germans.
( ) 15. The German military officer is typical of the German people.
( ) 16. German parents are harsh to their children.
( ) 17. I hate all the Germans.
( ) 18. The rank and file of the German army were kindly admirable young men.
( ) 19. The Germans are the most desirable class of immigrants.
( ) 20. I'd rather have my sister marry a German than any other foreigner.
( ) 21. The arrogance of the German officer is not typical of the German people.
( ) 22. I have no particular love nor hate for the Germans.
( ) 23. There is nothing about Germans that I could ever like.
( ) 24. I suppose Germans are all right but I've never liked them.
( ) 25. German home life is ideal.
( ) 26. The people of Germany are gluttonous, militaristic and overbearing.
( ) 27. Germans are superior to any other nationality.

A few diagrams showing the results of experiments in measuring the effect of motion pictures on the attitudes of children will illustrate the use of this method. Miss Ruth Peterson carried out these experiments according to the following plan. One of these attitude schedules was given to a group of high-school children, and their attitudes on some social issue were measured thereby. Among the issues that were studied in these experiments were attitude toward pacifism, attitude toward the Germans, attitude toward prohibition, attitude toward the Chinese, attitude toward the Negro, and attitude toward the treatment of criminals. The children who had filled in schedules on one of these issues received tickets to a local moving-picture theater, in which we had arranged previously to show a film selected because of its possible influence on the issue in question. The morning after seeing the picture, the children were asked to fill in a second form of the attitude schedules in school. Since we had a record of the children who had attended the theater, we could isolate them for special study. We could then plot the frequency distributions of atti-

tudes on a social issue before and after seeing a motion picture. The diagrams which follow will show the manner in which the motion pictures did influence the social attitudes of the children.

A question was raised about the durability of these effects, and we set up several experiments to answer this question. The same children were given a third form of the attitude scale to be filled in from three to nineteen months after seeing the picture, and a later diagram will show that often the effect of a single striking motion picture lasted for many months. It should be said that these experiments were carried out in small towns where the high-school children are likely to be less sophisticated than in the cities, and where the amusement distractions are undoubtedly not so severe.

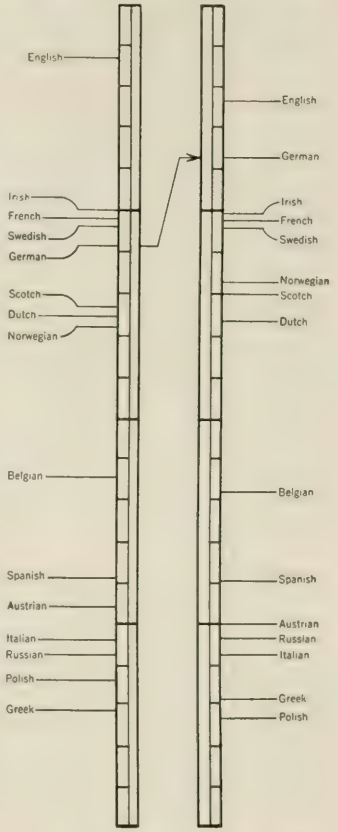

Fig. 1. Nationality preferences of school children before and after seeing the film "Four Sons."

In Figure 1 are given the results of the paired comparison schedule for nationality preference which was given to 133 children in Grades VII to XII at Genoa, Illinois. Here we see that the scale value of the Germans was raised by seeing the film. In other words, the film made the children more friendly toward Germans.

The solid line and dash lines in Figure 2 show the frequency distribution of 87 children in Genoa, Illinois, before and after seeing the film "Four Sons." The film evidently made the children slightly more friendly toward Germans than they were before seeing the picture. The ratio of the difference of the means to the probable error of the difference before and after seeing the picture was 5.4 for the 133 school children at Genoa whose preferences are portrayed in Figure 1. The dotted line indicates the durability of the effect on the 87 children who took the three tests; after a period of six months the children still showed the influence of the film.

In any one of these experiments it would, of course, be logically

possible to attribute the effect to some other influence. But when we realize that the schedules before and after the pictures were given within a period of two or three days, it would be rather improbable that something should have happened, coincident with the film, that would influence the children's attitudes. In order to guard against this possibility we have carried out several different experiments in different towns with different issues. They all show the same general effect.

The films "All Quiet on the Western Front" and "Journey's End" have been spoken of as pacifistic in their effect. To test this

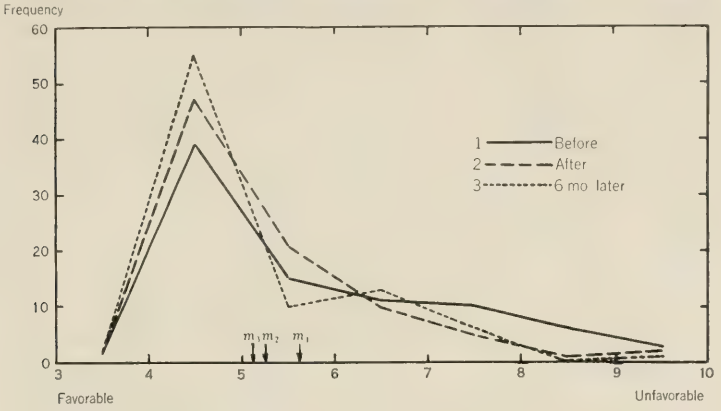

Fig. 2. Attitudes of 87 school children at Genoa, Illinois, toward Germans before, immediately after, and six months after seeing the film "Four Sons."

Mean_1 (Before)	$=5.74$	$D_{1-2}=.47$	$\sigma_1=1.52$	
Mean_2 (After)	$=5.27$	$D_{1-3}=.58$		$r_{13}=.57$
Mean_3 (6 mo. later)	$=5.16$	$PE_{D_{1-3}}=.0911$	$\sigma_3=1.03$	
$\frac{D_{1-3}}{D_{1-2}}$	$=\frac{.58}{.47}=1.23$		$\frac{D_{1-3}}{PE_{D_{1-3}}}=6.37$	

belief an experiment was carried out at Mooseheart, Illinois, using 600 children as subjects. In Figure 3 the attitude of the children toward war before and after seeing these two films which were shown within the period of a few days is portrayed. The effect is rather striking, and the ratio of the difference to the probable error of the difference of the two means is over 14. There seems to be no question that these children who were in a large institution became more pacifistic as the result of seeing these two films.

At this point it might be well to call attention to the fact that these experiments have nothing to do with the question as to which attitudes are to be considered right or wrong, and which attitudes

should be cultivated in public schools. That is an entirely different question. Our present experiments are concerned with the methods of measuring the effect of social stimuli. The results of these experiments may be used either as arguments for or against the use of these social stimuli depending on whether those in charge of the schools decide that these attitudes are good or bad. It is one thing to establish the fact that a film such as "All Quiet on the Western Front" does have a pacifistic effect on school children. It is quite another thing to decide that it is either a good thing or a bad thing

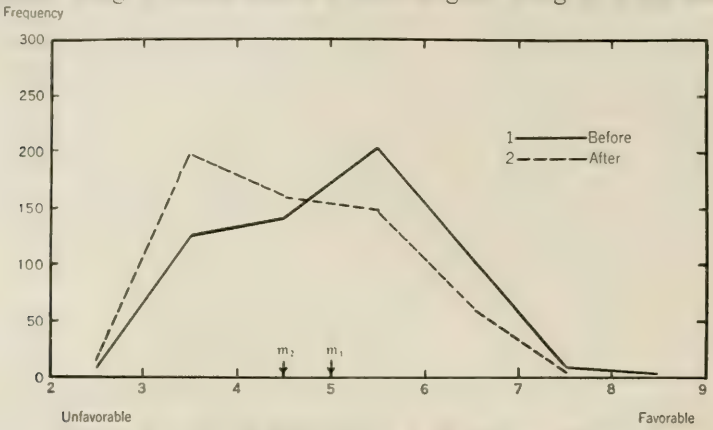

Fig. 3. Attitudes of 600 children at Mooseheart, Illinois, toward war after seeing the two films, "All Quiet on the Western Front" and "Journey's End."

Mean_1 (Before) $=4.99$	$PE_{M_1}=.029$	$\sigma_1=1.06$	$r_{12}=.38$
Mean_2 (After) $=4.53$	$PE_{M_2}=.029$	$\sigma_2=1.06$	
$D_{M_1-M_2} = .46$	$PE_D = .0323$	$\frac{D}{PE_D}=14.24$	

to show them such films. With this latter question we have here nothing to do.

The film "Son of the Gods," described as friendly in its attitude toward Chinese culture, was used in one of our experiments, and the frequency distribution showed that the film made the children much more friendly toward the Chinese than they had been. In a similar town we showed the film "Welcome Danger," described as rather hostile in its interpretation to the Chinese, to a similar high-school population. When the graph for this was plotted, the slightly antagonistic effect in the film had affected the children so that they were slightly more antagonistic toward the Chinese than they had been before seeing the picture. Two high-school populations were,

therefore, influenced in opposite directions by viewing the two films with opposite interpretations of Chinese culture.

"The Penal Code" was shown to 240 students at Knox College, and the effect of the film was to make the students more lenient toward criminals than they had been before seeing the picture. The difference between the means before and after seeing the film was 12 times the probable error. The same film was viewed by 250

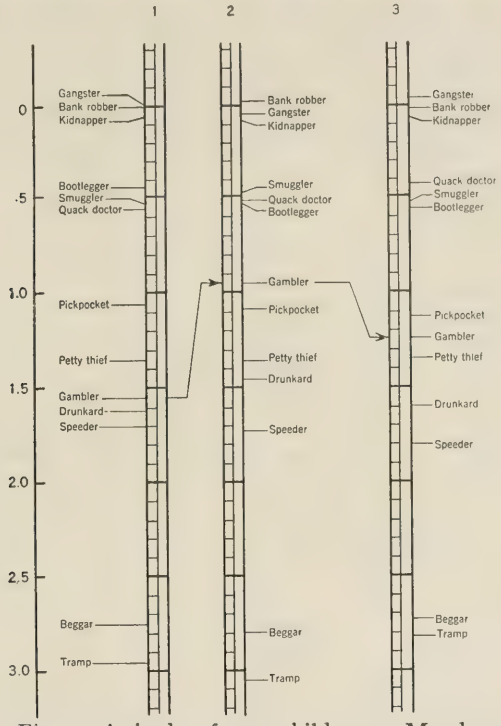

Fig. 4. Attitude of 240 children at Mendota, Illinois, toward gambling before and after seeing the film "Street of Chance."

elementary- and high-school children at Watseka, Illinois, and the distributions of the attitude scores before seeing the film, after seeing the film, and two and one-half months later were summarized. The mean scores show that again this film made the children more lenient toward criminals, less severe in the punishment which they would give to criminals, than they would have been before seeing the picture. After a period of two and one-half months their attitude was nearly the same as the morning after seeing the picture. The later

mean had moved only slightly in the direction of the original mean.[7] In experiments of this sort we have found that in a period of from two to six months about half of the effect of the film may wear off. It is quite likely that the effect wears off more rapidly with children in larger cities who are exposed to frequent distracting stimuli.

Two hundred forty school children at Mendota, Illinois, were shown the film "Street of Chance" by a similar plan. We have here a record of the paired comparison schedules according to which the children were asked to judge the relative seriousness of pairs of offenses in Figure 4. This film shows the life of a gambler, and

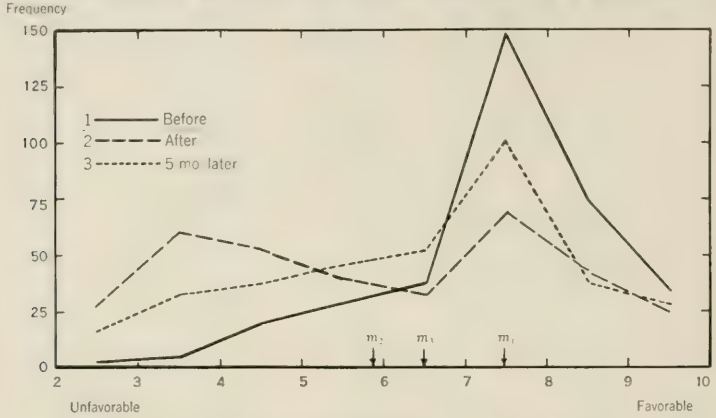

Fig. 5. Attitudes of 434 children at Crystal Lake, Illinois, toward the Negro before, immediately after, and five months after seeing the film "The Birth of a Nation."

Mean_1 (Before) $=7.46$ $D_{1-2}=1.53$ $\sigma_1=1.40$

Mean_2 (After) $=5.93$ $D_{1-3}=.95$ $r_{13}=.51$

Mean_3 (5 mo. later) $=6.51$ $PE_{D_{1-3}}=.0609$ $\sigma_3=1.90$

$$\frac{D_{1-3}}{D_{1-2}}=\frac{.95}{1.53}=.52 \qquad \frac{D_{1-3}}{PE_{D_{1-3}}}=15.59$$

we were interested to see what effect it would have on the children's attitudes toward the seriousness of gambling in comparison with that of other offenses. We see that the film made the children much more severe in their judgment of gambling, and consequently the film can be said to have a morally acceptable effect. After a period of five months the same schedules were given a third time to the same group of children, and we now find that the effect of the film had in part worn off, because the scale value of "gambler" had returned about halfway toward its value before the film was shown.

[7] The graphs showing these facts are given in *Motion Picture and the Social Attitudes of Children*, a study in the "Motion Picture Series" soon to be published by Macmillan Company.

Undoubtedly the most striking effect of any single film was that of "The Birth of a Nation." In Figure 5 we have the results of showing that film to 434 children in the grammar and high school at Crystal Lake, Illinois. Notice the distribution of attitude toward the Negro before and after seeing this film. There is a striking shift in the means and in the shape of the frequency distribution. The difference between the means before and after seeing this picture is over 25 times the probable error, and the difference is so conspicuous that no probable error needs to be computed in order to reveal the effect of the film. This film made the children more hostile in their attitude toward the Negro.

Five months later the Negro attitude scale was again given to the children at Crystal Lake, and we then found, as was to be

TABLE I

SUMMARY OF THE EFFECTS OF VARIOUS FILMS AND COMBINATIONS OF FILMS ON CHILDREN AT MOOSEHEART

Film	Number of Children	Mean of First View	Mean of Second View	Difference of Two Means	Probable Error of Difference
(1)	(2)	(3)	(4)	(5)	(6)
Big House	138	5.14	5.13	—.01	*x*
Numbered Men	168	5.23	5.27	+.04	*x*
Big House and Numbered Men	143	5.23	5.03	—.20	3.0
Big House and The Criminal Code	138	5.14	4.97	—.17	2.2
Numbered Men and The Criminal Code	168	5.23	4.95	—.28	3.9
Big House, Numbered Men, and The Criminal Code	139	5.22	4.83	—.39	6.7
No film	167	4.95	4.98	+.03	*x*

expected, that the effect of the film had in part worn off, but in five months only to the extent of about one-third. The resulting effect was to leave the children five months later more hostile toward Negroes than they were before seeing the picture.

In Table I we have a summary of the effect of various films and combinations of films on groups at the Mooseheart institution in Illinois. The last column is of some interest. An "*x*" means that the effect was not large enough to be statistically interesting. The important fact in this table is that the combination of three films has a stronger effect than the combination of two films. A combination of two films has a stronger effect than a single film. Finally we gave the same schedules under similar conditions to a group of children at Mooseheart who did not see any of these films, and we

found that our mean attitude score on the issues involved was not affected in that the differences between successive trials for the control group were statistically not significant.

In conclusion, I should like to repeat that our main problem has been to develop methods for measuring the intensity of the affective or emotional reactions of people toward social stimuli. These are what we have called social attitudes. These attitude measurements tell us nothing about the informational, intellectual, or logical characteristics of our subjects. Neither do our attitude measurements imply the correctness or incorrectness of the attitudes that we have measured. There is, however, so much public interest in the cultivation of certain attitudes and in the extermination of other attitudes, that I want to say a few words on that aspect of the problem of social attitudes in the public schools. Frequently I am asked whether our attitude scales can be used to determine whether school children or college students have attained certain desirable attitudes. They can, of course, but that requires that we specify beforehand what the desirable attitudes are. To do so involves an important responsibility, the seriousness of which is not at all realized by many school administrators. There are many school administrators who think that it is desirable to make children ridicule the pacifists, hate the communists, believe in God, disapprove of birth control, and become blindly and uncritically patriotic. Such policies are well intentioned, but in my judgment they are seriously in error when they stipulate that some of these attitudes are values in and of themselves for which the schools should strive. It is my conviction that the passing or failing of a student in the public school or in a college should never depend on his religious or political beliefs. The passing or failing mark should be assigned exclusively on the basis of the student's critical and intellectual attainments in the subjects specified, irrespective of his beliefs on social issues. I am therefore much opposed to the use of our attitude scales for determining whether or not a student should be accepted or passed in any school, but it is undoubtedly of considerable interest to ascertain the attitudes of people of different ages and of different levels of education on the various social issues. Instead of inculcating blind belief in the intrinsic value of certain attitudes, the results of education should make students critical on all social issues, including those we have mentioned. Let us hope that these instruments will not be used for the purposes of blind patriotism or blind religion and that schools and universities will encourage students more than hitherto to decide social issues by their intrinsic merits rather than by political and religious faith.

The School and Social Development

By H. M. BUCKLEY[1]

OUR NATION MAINTAINS THE PRACTICE of spending as much for the protection from and prosecution of crime as it does for all systematic education from the kindergarten to the graduate school. We are able to exhibit the wealthiest nation that concentrated commerce and industry have ever produced on the verge of starvation. Like the early settlers, we continue to play the rôle of the roving individualist. The log cabin of the pioneer, which held him at least through one winter, has been highly refined and placed on wheels so that his great-grandson roves at high speed from city to city and from state to state without spending one full day at a single point. This aids us in maintaining the record of being the nation with the highest crime score and the youngest criminals of any civilized country.

The history we have taught has idealized smuggling, defiance of law, and revolution. Not only the whip for the wife but also the paddle for the child have dropped out of the home. Stocks and public whipping posts are gone and almost forgotten. The prison is developing into a hospital. The philosophy of change is being so fully accepted and idealized that the future is void and without form. Adults first hesitate and then refuse to impose customs, habits, and ideals, but leave the child to face a most complex social and economic environment without any chart, compass, or trail.

Somewhere between Bagley's iron mountains, where adult tonics are mined to stiffen infants' spines, and Kilpatrick's tropical paradise, where infants wear no artificial clothes and use no formal speech imposed by adults, there must be a vast and varied area for successful specific cultivation by the school. It will never be possible for us to telescope the future so as to prescribe for pupils just what they shall read, play, work upon, vote for, or believe twenty-five years from now, but it is possible and necessary that we acquaint them with those experiences and decisions of the race which have resulted in the greatest good, or the greatest evil, to the greatest number in the hope that they may discern some of the fundamental principles upon which decisions of vast and vital import have been made.

[1] Assistant Superintendent of Schools, Cleveland.

Such understandings, however, will not result from beautiful generalizations, emphasizing such pious hopes and aspirations as character, citizenship, co-operation, tolerance, brotherhood of man, democracy of nations. Such aspiring educational evangelism is no short-cut substitute for the specifics upon which effective training for citizenship depends. We still need to teach some specific units of worth-while subject-matter, prescribe some purposeful work and organized play, train for specific habits in such a manner as to make self-imposed discipline seem natural and agreeable, and to insure the maximum number of continuous successes in science, literature, music, art, clubs, orchestras—not assuming that the content and method are perfect, but that they are the best we know and are able to provide.

Training for Citizenship

By HERBERT S. WEET[2]

THE KEYNOTE OF THIS CONFERENCE is "Education as a Social Investment," a subject that is fortunately and timely chosen. I wonder how far we realize that this ultimately sole defense for education has never been more adequately and comprehensively put than by George Washington. Two of the statements made by him with reference to education are familiar to us all. "Promote then," he declared, "as an object of primary importance, institutions for the general diffusion of knowledge." This, however, amounts to little more than a declaration and gives no hint as to the reasons for which institutions for the general diffusion of knowledge should be promoted. He does, almost directly, indicate the reason for the foregoing declaration. "In proportion," he said, "as the structure of government gives force to public opinion, it is essential that public opinion should be enlightened." No person can read these statements without realizing that Washington saw clearly that education was a social investment.

Furthermore, if we were to stop at this point, we might properly draw the conclusion that the only requisite of education as a social investment was the acquisition and the diffusion of knowledge, but there is a third statement made by Washington with which we are not so familiar. As we all know, he pleaded eloquently for a national university. Why did he desire a national university? The climax of his reasoning was that this might enable our youth to acquire

> knowledge in the principles of politics and good government . . . and to free themselves . . . from those local prejudices and habitual jealousies

[2] Superintendent of Schools, Rochester, New York.

. . . which when carried to excess are never failing sources of disquietude to the public mind and are pregnant of mischievous consequences to this country.

To Washington, then, education was a social and civic investment and an investment that could not pay dividends except as knowledge was acquired and diffused and public opinion thereby enlightened. Education as Washington saw it was even more than this; it was a social investment that could not pay dividends except as it went beyond the realm of knowledge and culminated in right attitudes toward society.

If it were necessary to give a categorical answer to the question, Are our schools training adequately for citizenship? which might constitute the subject of this paper, I suppose that answer would have to be in the negative. Who is going to look upon conditions in this country today and declare that any one of the basic institutions upon which America has depended for the fulfillment of the goal dreamed of by our forefathers is doing its work adequately? It would be futile to spend time here in recalling both the apparent and the real inadequacies of the home, the church, the school, and society at large, for these inadequacies are all too vividly in our minds to require comment. Let us at the outset, therefore, concede the shortcomings of the public schools of America.

After all the concessions are made, however, that due modesty requires and that a full understanding of the facts justifies, we need not hesitate to declare that no institution in this country is paying larger dividends on its investment than are the public schools. The whole trend of these public schools, particularly in recent years, has been in the direction of a substantial increase in the adequacy with which they are training for citizenship. We shall attempt in this paper to sketch the reasons for this belief and at the same time to discuss briefly some of the influences which not only threaten to hold up further progress but to force it to lose ground which has been gained only after years of consecrated and intelligent effort.

Your group has the immediate responsibility of guidance in elementary schools. What are you doing in your elementary schools and what are others in similar positions doing throughout the elementary schools of America, to justify the claim that these schools are more adequately training for citizenship today than ever before? We can do little more than enumerate some of the most important factors involved in the answer to this question, but they are factors upon which we shall all need to take a tenacious hold if we are to

safeguard our schools in the days that lie ahead. We must begin with the curriculum because it reflects, more than does any other one element, the broadened conception of what training for citizenship actually means. We may well start with it, because in the opinions of many people both the educational and economic advantages of our schools would be served if the number of subjects taught were reduced. And yet I submit that there is not a single activity in any one of our elementary schools today that is not indispensable to one or more of the four essentials to adequate training for citizenship. Let us briefly run over the list.

In the first place, we are teaching these boys and girls to read, write, and speak correctly the English language and to know and use intelligently the elementary processes of arithmetic. By common consent these are the fundamentals without which neither the knowledge nor the training essential to the fullest enjoyment of life, to economic independence, and to satisfactory citizenship can be secured. The public school has never lost sight of this essential.

In the second place, we are teaching these children to know and to observe the laws of physical health and well-being and to appreciate the meaning of life and of nature. That the elementary school should begin and effectively continue to give to the child an essential health knowledge and to help him establish right health habits, is, today, generally conceded. Go through the history of public education in this country and you will find that it was not until the last decade that health education had a place worthy of the name. It has a place today and its importance as a factor in social well-being and in citizenship training is generally recognized. Progress in this field constitutes one fundamental reason for the belief that our schools are more adequately training for citizenship today than ever before.

The third thing which we are doing, and doing with increased effectiveness, is that we have been advancing these children in their ability to know and to appreciate the geography and history of their own communities, of the state, of the nation, and of the world at large. We have been developing a sense of their share in the social, civic, and industrial order of such a democracy as ours and stimulating them to meet to the full the obligations which such knowledge and appreciation should engender, to the end that justice, sympathy, and loyalty may characterize their personal and community lives. This, more than any other, is the field that deals directly with establishing the ideals of social and civic conduct and, what is of equal importance, with freeing the minds of these boys and girls from local prejudices and habitual jealousies to the end that they may realize these

ideals. Is there a person familiar with public education who for an instant would fail to recognize that in this field of the social studies, both in theory and in practice, we are today doing more than ever before in the giving of sound and essential knowledge, in the development of right attitudes toward society, and in the creation of desires to fulfill obligations to the social order?

Finally, our public schools are, to an extent not hitherto approached, advancing the child in his ability to share intelligently and appreciatively in the fine and the useful arts through the pursuit of music, drawing, and literature, and of manual training and the household arts as they are related to the three great universal needs of food, clothing, and shelter. At the recent Washington meeting of the Department of Superintendence, I heard the distinguished president of the National Education Association, Miss Florence Hale, give the most eloquent defense that I have yet heard for the increasingly important part that the fine and practical arts have had in our public-school life. It was so significant that I wish all the parents and teachers of America might have heard it. Prosaically put, it was a defense of their indispensable contribution to the wholesome use of leisure that is of such startling consequence to any serious-minded person.

This, then, is our common foundation. It is comprehensive enough to include the tools of language and number, a trained mind and a sound body to use them in life's activities, a moral nature appealed to and thereby stimulated and made intelligent with reference to the great social and civic obligations, the aesthetic life awakened, the universal craving for the use of the human hand gratified, and its indispensable contribution to the arts and industries of life recognized. It is an ideal, yet there is not a single one of its elements with which any one of us would be willing to dispense. It touches simply the latent possibilities of a human being. For the public school to allow any one of these to remain latent is to deprive the individual and to ignore the larger life of the community.

This range of activities must indicate to any thoughtful person that our schools have today a far clearer sight of the goal which they are striving to realize, this matter of training for citizenship, than they had even a decade and a half ago. No less significant than this range of activities is the progress made in the nature of the material thus included in the curriculum. The amount of dead wood and non-essentials that has been thrown out of our school studies during these recent years and the progress made in incorporating vital elements to take their place are attainments of the first order. Hand in hand with this there has come a vitality in teaching. Contrast the

academic knowledge and examinations in health education of twenty years ago with the vitalized health education of today that considers its work a failure except as it results in improved physical conduct. Contrast again the goal of instruction for good government of twenty years ago, when a knowledge of the mere structure of government was the fulfillment of that goal, with the vitalized teaching of today in which living the life of the good citizen both within and without the school community stands out pre-eminently as the great end sought for in all social and civic studies. This outstandingly significant point of view, that the test of our effectiveness lies quite as much in the ability to use as in the ability to acquire, has probably been brought about by the improvement in teacher training. By and large our work in public education has improved directly in proportion to the improvement in teacher training, in which field unprecedented progress has been made. Of signal importance also have been the increasingly flexible adjustments in school organization. The differentiated opportunities of the junior high school, for example, and the specific provisions made for diagnosing as well as meeting the individual needs of children stand out as conspicuous attainments during these recent years. These considerations justify the proposition with which we started, that no institution in this country is paying larger dividends on its investment than are the public schools.

Now what of the future? Regardless of what you and I may think of the financial ability of this country to support public education and the means by which that ability is to manifest itself through proper forms of taxation to guarantee this support, the stubborn fact remains that under existing conditions there is a serious financial crisis in almost every community throughout the nation. Budgets for schools as well as for other governmental service are being so drastically cut that curtailment is inevitable. My fear is that we have not as yet seen the worst of these budget reductions, at least in those communities where real estate is carrying, as it is in my own community, at least 70 per cent of the burden of supporting the schools and these other governmental agencies.

All this presents to school principals and school executives in general a challenge in the exercise of statesmanship and real engineering ability. There is on every hand a conscientious and an intelligent desire to meet this challenge. But over against this we are threatened today, in spite of all our efforts, with certain dangers which strike at the very roots of our public schools in such a way as to preclude the possibility of having them continue to hold the place which they

have come to hold as social investments. Interestingly enough the crux of this danger does not concern the curriculum or the subject of teacher training or any of these other things to which we have referred, but it does concern the matter of organization.

By and large there is no surer test of the direction in which a public-school system is moving, or of the rate with which it is moving, than the extent to which it holds as a sacred obligation the task of ascertaining the causes that lie back of the failure of every child to make normal progress and then so far as it is humanly possible to do so to remedy those causes. You may call this an ideal, but no public school or public-school system is worthy of the name which does not steadfastly hold to this ideal. To me the most unforgivable thing in school or elsewhere is to regard the individual as a number rather than as a living personality in need of love and sympathy and intelligent guidance. We speak of developing right attitudes on the part of these boys and girls as one of the fundamental outcomes of present-day education. Is it conceivable that we can lay claim to any sincerity or intelligence in this all-important process when the curriculum or the technique of instruction takes first place in our thinking? If we would have this sincerity or intelligence we must attempt to understand the perplexities, the tribulations, and the aspirations of the growing boy or girl. If we are to seek first the Kingdom of God in our actual work of teaching, we shall seek first to know these children. All this, naturally, leads us to the matter of school organization.

In the elementary school there are at least four things necessary to the realization of this attempt to deal with the child as a living personality rather than as a number. These four essentials are classes of reasonable size for normal children, special classes for the exceptional child, adequate provisions in the school for the diagnosis of special needs, and, finally, but by no means the least important of the four, adequate and competent central direction and supervision. Today these are the four essentials that our depressed economic life is threatening. There is time for but a brief comment concerning each.

I am not unaware of the debatable nature of this whole subject of class-size, nor am I unaware of the fact that every community must solve the problem for itself. To my mind one of the most subtle and dangerous tendencies of today in school organization is sequence; this works in the direction of crowded classes which gives diminished opportunities for the great intangible values of education that count for so much in training for citizenship. If the subject of class-size be approached from the standpoint of statistical study based upon progress in the so-called measurable subjects of promotion, then apparently it makes little difference whether we have classes of thirty

or classes of forty-five or even more. It is not surprising under these conditions that there is a pronounced tendency toward crowded classes since any substantial saving must come either through salary reductions or through reduction in personnel due to increased teacher-load. If we approach this subject of class-size with common sense, we come to a different conclusion. Other things being equal a teacher can more intelligently understand and more sympathetically meet the needs of your child and mine in a class of thirty pupils than it is possible to understand and meet those needs in classes of forty and forty-five pupils. This is the primary reason the parent sends his child to a private school if he can afford it, especially if the child is failing to make what this parent regards as normal progress in a public school. And by normal progress we are thinking not alone of ability to gain promotion in the formal subjects of education but in character development, in right attitudes toward society, and in all these other characteristics that are so essential to the rounded citizen. So far as Rochester is concerned, our standard for the class or home-room teacher is thirty-five pupils and we shall strive to protect that standard.

Quality is, however, to say the least, quite as important as quantity in this matter of class-size. If there is to be reasonable homogeneity then special classes for the handicapped, at least, and for the precocious, if possible, are essential. For the most part we are in the way of having these protected in our own state because of a state law which makes mandatory provisions for the physically and the mentally handicapped children. We all recognize that such classes are essential in the interest of both the handicapped and the normal child.

Other essentials in this great attempt to get at and develop the personalities of children are provisions in the individual school for diagnosing needs. Under this may come our visiting teachers, our representatives of the child-study department, our remedial teachers, as well as the required clerical, administrative, and supervisory assistants. We know only too well from our experience that failure to make this normal progress may be caused by physical handicaps which only the physician and the school nurse are in a position to detect. But we likewise know that this failure may be due to conditions in the home or in the social environment outside the school, and the means of searching out such causes are found in the visiting teacher. The psychologist of recent years has made very significant contributions in the way of enabling us to understand these differences in abilities and consequently in needs of children, and the importance of taking advantage of these contributions is generally recognized.

A recent request made to the principals of our elementary schools at Rochester to list in relative importance the order in which they would desire to have each line of special service curtailed, in so far as this curtailment will be necessary to the balancing of our budget, showed with a surprising degree of uniformity that these representatives from the Child Study Department and these visiting teachers had established themselves in the confidence of the schools in a surprisingly significant way. But these special types of help and other similar types with which we are all familiar constitute an overhead expense in the individual school, and these are the days when overhead expenses are under particularly close scrutiny. They are properly under such scrutiny. We shall move cautiously, however, in so far as we have control, in dispensing with this essential, if we actually are to know and then help meet the needs of the child to the end that society's investment in education may be fully justified.

I should like, also, if there were time, to place quite as much emphasis upon the necessity of central supervision and direction for the system as a whole, as I have tried to place upon this so-called overhead in the individual school. School systems today are being stripped of all too many cases of central direction and supervision, not primarily, unfortunately, for economic reasons although these are the days when economic reasons can quite readily be made the excuse for such action. Human nature would not be what it is if this essential were not one of the first to be attacked. Nobody likes to be supervised and least of all those who need it most. It is neither possible nor necessary to attempt more than a brief comment upon this subject. To omit it, however, from a discussion of this kind would be unjustifiable. The skillful teacher recognizes differences in ability, in mental processes, in interests, and the like, on the part of the pupils in his group, but in the last analysis all his efforts with that group are directed to two great aims: One of these is the attainment, on the part of the pupils, of the highest possible uniform excellence in the mastery of those things which civilization has gained through the years and which society regards as essential to the holding of such gains as have been made; in other words, it is the social inheritance demands which must ever constitute an important claim upon the work of education. And the other aim is to stimulate to the highest degree possible that individual creative work without which no child ever comes into his own. We are all conscious of the limitations that even the most capable teacher faces in the realization of these aims; they are, nevertheless, goals toward which, consciously or unconsciously, the competent teacher directs. The principal of the school has an exactly analogous

aim and function with reference to the teachers of his building; and central direction and supervision, an exactly analogous function with reference to the system as a whole. I am referring to it here in the hope that we may all link it with these other essentials in our attempts to save for the public schools those elements without which they must lose the ground they have gained. This gain has been made at a great cost in time and effort in the attempt to fulfill more and more adequately the dreams of a Washington by returning ample dividends on the investments made for social and civic improvement.

No, we are not adequately training for citizenship if by adequately we mean doing our job in such a manner as to leave no opportunities for improvement. But in the last decade and a half our public schools have more nearly approximated this adequacy in training than ever before in the history of American education. We are in the midst of a period that may have critically unfortunate consequences for our public schools and consequently for our community life. It is ours to search for essentials as we have never searched for them before, and then, in the presence of whatever odds we may have to face, hold to these essentials with a tenacity of purpose that nothing but a deep and abiding interest in the lives of these boys and girls can make possible.

The Problem of the Hard-of-Hearing Child

By H. M. APPLEMAN[1]

GREAT ADVANCEMENT HAS BEEN MADE toward attaining the ideal; when it seems almost within grasp, new discoveries, new inventions, and more complete research reveal large groups of children which the schools do not reach; those suffering from some physical or mental handicap—the crippled, those of low vision, cardiac cases, the epileptic, the anemic, and those under consideration today, the deafened and deaf, who are sometimes designated as the hard of hearing.

The school has been slow in providing for these deafened children for two reasons: first, the nature of the defect is such as to escape notice. Children have been called "dumb," "stubborn," "inattentive," because no one knew that they did not hear. In the second place, teachers are not available to instruct children so afflicted. Such teaching involves careful special training as will appear later.

Deafness is a relative term; that is, not many children have some malformation in the hearing organs so that sound waves do not register in the brain. Nearly all have some hearing, called residual hearing, and it can be used if sounds are sufficiently intense. The degree of hearing determines the method of teaching. The deaf child who does not hear ordinary conversation needs different treatment from the child who is just a little dull in the sense of hearing. The amount of hearing loss is determined by tests with the audiometer and a loss of 24 or more points means special teaching; a smaller loss than this suggests that the regular teacher seat the child in a good place and give him every advantage for hearing. Such children should have lip-reading lessons at least twice each week as an aid to their school experience.

Deaf children should be brought together in one building and be taught by teachers trained for that work. Each child must be taught to make sounds which he has never heard, and this involves a long, patient process of repetition and drill on fundamentals. An idea, which the hearing child gets by being told once, registers with the deaf child only after many repetitions. Many aids to teaching have

[1] Columbus public schools.

been devised for such children. Such devices attempt to reach the residual hearing so that sounds may register. One of those in common use is the audiphone. This is a sort of radio receiver into which the teacher speaks; each child has a headpiece with an ear attachment and a control by which he may regulate the intensity of the sound. In this way he hears the human voice and is aided in his upward progress. Lip-reading instruction should be provided for those children who can still make some progress in the ordinary classroom. Such children soon become so expert that they understand conversation if they are able to see the lips of the speaker.

Children who need this special teaching should be sent to one central building. They should be instructed in the classrooms with the other children and have supplementary lip-reading lessons from a trained teacher. Deaf children likewise should be in one central building where the special apparatus may be provided for them. They should be permitted to go to the regular classes for as much work as they can do, relying upon their ability as lip-readers, and gaining the advantages of association with hearing children.

Not many teachers are available for this work. It involves a rather long period of intense training, and many are not adapted to it. Some administrators think a deaf person is the proper one for a teacher because of an understanding of the handicap. It seems, however, that the teacher should hear well so as to be able to correct any bad intonation on the pupils' part. It is difficult work to teach children to talk, especially those who have never heard sounds, and it requires the best teaching ability to be found.

The Teaching Configuration

By CLYDE HISSONG[2]

THE IMPORTANT DESIDERATUM IN EDUCATION is a flexible teaching procedure. It is the underlying thesis of this discussion that teaching procedures which produce effective results cannot be formalized. They must be determined anew in each situation, for the whole configuration; that is, the grouping of all the elements in the situation determines reactions which cannot in entirety be predicted in advance. Frequently it appears that teachers seek to cure their educational maladjustments in much the same way that many individuals attempt to cure their physical ills, through acceptance of standardized remedies.

[2] Bowling Green State College.

Question patterns are not uncommon as suggested treatments, and the one that seems to have gained the most headway is the thought question. Student teachers in particular are told with considerable persistence to make sure that questions appearing in their lesson plans are thought questions. The curious thing is, however, that a thought question cannot be judged from its appearance on paper but only in the actual teaching situation.

An even more pernicious scheme than the question pattern seems to have grown up in the development of recitation patterns. In four books in somewhat general use as guides to educational practice fifteen different recitation patterns are suggested. Five of the patterns, namely, problem solving, drill, appreciation, socialized recitation, and supervised study, appear in at least three of the four books. There is no objection to discussions of recitation patterns, but there is a grave suspicion that many of them have been employed without intelligent consideration of their appropriateness for particular teaching situations.

Individual instruction plans, the Winnetka plan with its clearly defined goals, complete diagnostic tests, and self-instructive and self-corrective practice material, and the Dalton plan with its emphasis on child freedom in budgeting his time and its provision for definite contracts with definite goals to be attained, seem to have made an appeal to an unusually large number of classroom teachers who are seeking a new way to teach traditional content. Mastery teaching with its units of subject-matter has made an equally wide appeal. Many teachers are following the five steps in the Morrison plan as religiously as did the Herbartians in the old school without being in the least disturbed by the fact that they are flirting seriously with rigidity and formalism and that the plan, although it does not prevent reflective thinking, does not necessarily encourage it. It is true that the objections to each of these plans may by its supporters be laid at the door of the teacher who is not thoroughly conversant with the plan. There is no desire to deny this inference, but the necessity for such an admission illustrates the fact that teachers are prone to accept devices without sufficient study and follow them unintelligently. It is in the unintelligent acceptance of various devices that the difficulty in the improvement of teaching procedures comes.

To obviate the difficulties encountered with recitation patterns, individual-instruction schemes, and unit teaching we are offered another alternative in the activity curriculum with its emphasis upon freedom, purposeful activity, creative self-expression, enriched environment, and personality adjustments. Teachers who wish to appropriate an activity curriculum forget, however, that it must be handled by a master teacher. An activity program taken over by a teacher

unversed in its philosophy and unfamiliar with its limitations does not any more closely approximate an ideal teaching procedure than any other pattern blindly accepted.

Since it is so easy to become a slave to question patterns, recitation patterns, unique movements, specific objectives, and the various appendages to these movements and devices, we are in serious danger of making the whole educational process so formalized, so mechanized, in fact so inhuman, that it may even surpass the obviously mechanized procedures of industrial institutions in the world of which the school as an institution is only a very small part.

What do we want? How shall we prevent mechanizing? How shall we arrive at a point where teaching is a thrilling adventure? We certainly do not want less training, not less mastery of content in the teaching field, and, strangely enough, not less knowledge of question patterns, recitation patterns, unique movements, and objectives in education. What we want is more knowledge, but at the same time we want with this knowledge a desire to reorganize and use it intelligently to meet the problems of the present situation. We want not the teacher who is bound by patent-medicine procedures, but the teacher who can use all of his knowledge in devising for the moment a combination or a procedure that will prove far superior to any standardized technique. We want teachers who are physicians and pharmacists rather than unintelligent consumers of patented products.

Social Aspects of Classroom Procedures

By PAUL C. STETSON[3]

The emphasis being placed upon devices and methods of procedures which will improve our administrative machinery and which through this improvement will facilitate movement of pupils from grade to grade is a tacit admission that our present arbitrary administrative organization is breaking down at an important point. This, to students of education, is not a new assumption. In 1893 President Eliot's famous Committee of Ten made the same observation. It has been repeated numerous times in a wide variety of reports since then. In 1899 the report of the Committee on Economy of Time by implication pointed out the same failure. As a result of these reports, and others as important if not so well known, the junior high-school plan of reorganization was proposed in an effort to find a plan which would facilitate articulation.

[3] Superintendent of Schools, Indianapolis, Indiana.

In recent reports psychologists have called our attention anew to the wide differences among children of the same chronological age and have forced many administrators to devise methods of teaching, reorganization of subject-matter, and procedures of administration which will enable us to make a practicable application in our classrooms of the findings of these scientific students of education.

It is interesting to note the wide variety of schemes which are in use. In the Ninth Yearbook of the Department of Superintendence[4] are listed twenty-eight plans which are used with varying degrees of success for meeting the individual differences of pupils. According to Table 30 the scheme resorted to most frequently and with the greatest success is that of providing a "variation in the number of subjects a pupil may carry," and the one used least is the "Winnetka technique."[5] One wonders of course whether this may be because of the merit of the first plan or because it is the easiest plan to administer, and whether the relatively small number of schools using the "Winnetka technique" may not be because of the difficulty the average high-school principal has in introducing it and in finding teachers capable of using it.

Regardless of the plan adopted, several serious problems present themselves. Whenever differentiation in the subject-matter of any grade is attempted it is a matter of concern as to how this will affect the pupils' progress in succeeding grades. To provide for differentiation of subject-matter in English in the primary grades and not to make the same provision in the intermediate grades is to work, of course, an injustice upon the pupils when they enter the upper grades. Instead of accelerating the promotion rate such a course might and probably would only defer the retardation rate to later school years. Any scheme of differentiation of subject-matter should be city-wide and should include all grades if it is to achieve the results hoped for.

What may function in large cities may not be practicable in smaller cities. Many difficulties not found in our larger systems are present in smaller units. The size of the groups must be large enough to admit of differentiation. Small elementary- and high-school units do not lend themselves readily to such a plan.

The actual working out of the difficulties of grouping pupils of varying levels of ability is not the only problem present. Some means must be found to determine the basis upon which the pupils shall be placed in their respective and proper fields of learning. Ordinarily this means a testing organization quite outside the reach of smaller

[4] National Education Association, Department of Superintendence. *Five Unifying Factors in American Education.* p. 112.

[5] *Ibid.*, p. 113.

systems and not yet adopted by all of the larger. It also presupposes that we have for all systems, large or small, a technique of testing which will give us a basis for classifying pupils. This is a point upon which many are not agreed.

Section D in the report referred to discusses the plan used at Baltimore. Undoubtedly this is one of the most elaborate and successful devices we have and represents an extremely intelligent attempt to meet a difficult situation. Ignoring for the moment those pupils who are geniuses or near geniuses and those at the other end who are definitely feeble-minded or are border-line cases, one wonders, even at Baltimore, who is brave enough or wise enough to make a definite classification of pupils as "dull" or "bright." Surely such a classification has implications for the child concerned which should make even a supervisor pause. It assumes, in short, a technique in classifying children which is being attacked more and more vigorously from many sides. Until an accepted method for discovering the ability of that great group of pupils who are neither exceptionally bright nor extraordinarily slow has been devised, many will hesitate to classify pupils so that they will get a consciousness that they are in some important aspects inferior to their fellow-pupils. This is not in any sense a criticism of the Baltimore system, but expresses merely a question which is in the minds of many. Regardless of the objections which may be made to any plan of differentiation in order to make for better articulation and promotion, it is perfectly evident that some action on our part is needed at once.

At Indianapolis we feel that differentiation of courses with referance to promotion bears largely upon the problem of treatment of pupils of the lower ability levels. With us the organization of differentiated courses to improve the progress of promotion involves three things: First, the determination of the absolute core essentials of a course with large consideration given to what the pupil must know and do in the work of the course which follows. Second, the establishment of methods which will clarify the material which has been determined to be absolutely essential. And third, the creation of special conditions whereby the work and study habits of pupils may be observed and, if possible, improved.

We have determined core essentials by the common judgment of teachers as to what is essential subject-matter. Extensive study is sacrificed for intensive study. Not so many things are learned, but an attempt is made to learn the necessary things well. For many of the pupils in such groups this procedure has most significant values. Many of them go too long with a sense of smattered learning. When

they realize that they are actually doing some tasks with a degree of perfection, new and more wholesome attitudes toward all work and study soon develop.

In our high schools in Indiana a year of United States history is required for graduation. For many students for whom this type of work is difficult, this requirement has been a real problem. In Arsenal Technical Schools for a number of years, the following procedure has been followed:

> Upon the basis of the work of the first semester, teachers recommend for a special class those pupils who manifested honest difficulty with the subject. Pupils of ability who merely did not try are not recommended. With over 400 pupils taking the subject, teachers are limited to recommending not more than 10 [per cent]. These are then assigned to a special section, meeting ninety minutes each day. The work begins with special attention directed to the difficulties of comprehension of some simple statements of the textbook. It has been surprising to find how sentences are confused and understanding is blurred. Most of the pupils in such a section are slow and poor readers. Much of their understanding must come from patient and detailed explanation by the teacher himself. For this reason the supplementary reading required of other groups is not assigned, and the substitutes therefore must be provided by pictures, charts, and other visual material.[6]

By this plan there are many pupils for whom this required course in history would be a definite barrier for graduation who are honestly and fully enabled to meet their requirements. There is no record of any pupil making a request to be transferred from this special section, but there are many pupils, for whom the history course is a cause of concern, who ask to be assigned to it. It is safe to say that the major proportion of these pupils, if not given special care in a differentiated course, would fail. By this plan more than eighty per cent of those of the lowest level of intelligence are kept regular and enabled to pass, and to do so in the light of standards which are to a large extent determined by objective measures. The partial solution of their problem has come from limitation and selection of subject-matter on the basis of essentials.

Of equal importance to limitation of subject-matter is that of the devising of methods which make for understanding and interest. Mere selection of subject-matter is not enough. There must be conscious and intelligent selection of devices to help such pupils to learn. If they do not learn by the ear, they must get a chance to learn with the eye. Special plans must be made to discover the particular form of

[6] Indianapolis, Indiana. Report of the Principal of Arsenal Technical Schools.

difficulties which individuals have. Many of the projects for differentiation of courses and of pupils have trusted to differentiation itself to do the work. Unless there be definite modification of methods to clarify and illuminate subject-matter, differentiation of the course will not serve any great purpose.

Along with differentiation of subject-matter and devising of methods there need to be established certain conditions which will enable the teacher to observe and direct the study habits of pupils for whom promotion is a question. In most cases this means providing longer class periods wherein the teacher may direct the work which the pupil is doing. For a time such pupils need to work according to definite and specific directions. Assignments cannot be on general terms, but they should be made upon the basis of separate and distinct tasks of progressive difficulty and scope. To the degree that it is possible, these should look specifically to establishment of methods of study which will carry on for the course of study which lies ahead. Through all of this there needs to be established in the mind of the pupil a consciousness of success and achievement and a spirit of confidence that the work which follows can and will be done successfully. With pupils for whom promotion is an issue it is of utmost importance that they go from one course to another with the assurance that they are fully equipped to do whatever task lies ahead. Under no circumstances should any plan of differentiation on behalf of the border-line pupil give him the feeling that there is a doubt as to whether he is able to go on.

Perhaps there is no more striking illustration of need for differentiated courses to improve articulation than in the field of English for pupils ready to graduate from high school. For those going to college there is a definite and specific type of English training which will serve the high-school Senior as nothing else will. The demands of the college and university freshman course in English are a tradition. While the college freshman course is not standardized over the country, there are certain demands made upon the college Freshman which are quite common to all schools and all departments. Nothing that the high school can do for its graduates preparing for college can be of greater help than to prepare them for the year of college freshman composition. It can be the determining factor for many a college career. On the other hand, for the pupil about to leave high school for business and the world at large, the type of English preparation which is needed is of a considerably different character. While it is possible that one course might serve both careers, special methods and subject-matter adapted to each particular interest are serving our pupils more adequately. This is a clear-cut

case of differentiation in the character of subject-matter of a course to meet particular problems of articulation of postschool life.

What has been tried more or less successfully in the upper grades may with some modifications be adapted to the elementary years. The essential problems involved in articulation are present in the elementary as well as in the high-school grades. Not revised materials of instruction, but completely new courses of study, and not revised methods of classroom instruction, but entirely new teaching techniques are indicated if the full social benefits of our educational investment are to be realized.

A Socially Determined Curriculum in English

By W. WILBUR HATFIELD[1]

WHAT IS A CURRICULUM? Its derivation from the Latin word for race track suggests that it was originally thought of as an exercise ground, consisting, of course, of subject-matter. The modern significance, however, is a sequence of activities through which it is hoped that the pupil will grow. Under the older conception, curriculum-making was chiefly a matter for scholars; under our conception the ultimate curriculum-maker is the teacher. No matter what any administrator or supervisor may set down on paper, the actual curriculum for your boys and girls consists of the activities you lead them to carry on.

A socially determined curriculum is, of course, a curriculum planned to meet social needs. We may note first some of the unsatisfied needs of society, which are clamoring for our attention.

Graft is rampant. Court testimony has revealed shocking dishonesty under a Democratic mayor in New York and under a Republican mayor in Chicago. Yet the political machines which should be discredited by such revelations continue to command the support of a majority or of a threateningly large minority of the voters.

The numerous bank failures of the last year have been distressing in the extreme, because thousands of families have had the savings of years swept away; but the portentous fact about these failures is the remarkable number of cases in which the bankers have been indicted for flagrant violations of laws made to protect our deposits. Quite similar in spirit was the remark I heard one morning not long ago as a group of junior and senior high-school pupils descended from the suburban train. One girl was gloating to her companions: "Well, I beat the old conductor out of one ride, anyway!"

In a country where the front-page headlines for many days were given to the Lindbergh kidnaping, comment upon the presence of crimes of violence is unnecessary. Nor is this case so unusual except in personalities; I challenge you to produce an issue of a metropolitan newspaper in which at least one serious new crime is not reported.

These are sporadic cases, and most people are neither peculators

[1] Chicago Normal College.

nor holdup men, neither bootlegger gangsters nor white-slavers. This is certainly true, else this thing we call society could not exist; we should not, could not, be here discussing the improvement of education. We do not have to begin at the bottom. Our homes, our churches, our schools have not been all wrong; they have been more right than otherwise.

And yet—have you ever sat in the visitors' gallery of the United States Senate to watch our great statesmen manufacturing our laws? At least you read the Washington dispatches in the newspapers, and you know that no one expects Senators and members of Congress to consider the general national welfare before their own personal investments and the sectional interests of the states or districts they represent. The debate on the revenue bill in the present session has not been confined to high-minded consideration of justice and the general good. There are Congressmen who are not connected with any important industrial or financial groups, and who firmly subordinate political expediency to national good, but they are not always re-elected.

When we turn from the national to the international scene, we find nothing to raise our spirits. National brigandage is, it is true, outlawed; but a pretext for quarreling with a neighbor who has desirable territory or trade is easily found. The majority of Americans are jealous of England, distrust France, fear Russia, and are generally on the alert lest in international negotiations Europeans get the best of us. Someone has pointed out that the statesmen who gather at Geneva are all spokesmen for elective governments and has suggested that for their own political safety they dare not permit another international conflict. Yet at a time when the very existence of civilization depends upon world peace national majorities are densely ignorant of each other, are dominated by stupid prejudices, are readily swayed by the biased or plainly false reports of an "influenced" press. We think we shall not again swallow such propaganda as the stories of German atrocities in Belgium, but suspiciously similar tales cabled from both sides of the Sino-Japanese war front have been appearing in reputable dailies. Selfishness, suspicion, gullibility prevent us from seeing clearly, in the domestic muddle of government, poverty, and industrial depression. In international affairs they render us almost blind.

I must not stop to discuss our economic situation. We all agree, however, that ours is a tragic predicament; and no one in a position of authority has offered any comprehensive plan for our relief. Neither the administration's Finance Reconstruction Corporation nor Senator LaFollette's proposal that the government spend borrowed

billions upon hastily planned public works professes to be more than a palliative! Nor if these hard times should eventually improve have we any notion how to prevent another depression from taking its toll of maimed careers and mangled personalities. Our technical progress seems to have outstripped our ethical theory and our social organization. Concerning the processes of manufacture we are intelligent and highly adaptable, being governed by our intelligences. Concerning human relations we are stupid and stubbornly traditional, being governed by our prejudices and shortsighted selfishness.

The reading interests of Mr. or Mrs. Average Citizen are few and feeble. In a country of 125,000,000 people, the combined circulation of the *Atlantic*, the *Forum*, *Scribner's*, *Harpers*, *New Republic*, *Nation*, *Time*, *Literary Digest*, *Saturday Review*, and the *Bookman* falls far short of two per cent, probably about one per cent. Any book, even fiction, that sells one hundred thousand copies before oblivion settles upon it is a phenomenal success. If all the printings of worth-while books this year were added together there would not be a volume apiece for us. The popular literary taste is execrable.

Foreign visitors, when they are impolite enough to speak their minds, find us uninteresting personalities, monotonously alike. The herd mind's repression of the unconventional in thinking or expression has stifled individuality until even observation and thought are conventionalized and shrunken. Meantime psychiatrists are kept busy fishing up our complexes and helping us to dissolve them by expressing their causes.

Alan Reynolds Thompson says in the January-February issue of the *Bookman* that there is a cult of cruelty in American literature today, a sadistic impulse to shock and terrify the reader. It is not in any such spirit that I have cited all these disheartening features of the present social landscape. Rather I have made this brief survey of what is wrong in our world as the easiest way to bring clearly before us the qualities which we must develop in the children of today if the society of tomorrow is to be secure and happy. Civilization has not yet broken down; and I do not think it will, for I believe we shall have intelligence and devotion to make the next generation wiser, juster, nobler than we are, just as its machines will be more efficient and more wonderful than ours.

What, then, are these essential personal characteristics, and how far can education, particularly training in English, develop them?

Society needs men and women in whose hands my nickel, your

million dollars, or the unpublished manuscript of a brilliant novel would be equally safe. Society needs people who have no prejudice against work, who do not feel that the world owes them a living unless they earn it, who watch neither the clock nor their fellow-workers. Society needs men who do not wait for orders when they see a service to be performed, men who are not afraid to act lest someone criticize, men who are on the lookout for opportunity. Society needs citizens who know that all knowledge is relative, who adopt all opinions as tentative, who are superior to "consistency, which is the bane of little minds." Society, with its swift metamorphoses, needs adaptable folk, who can be happy and efficient though living under changed conditions, working at new occupations, perhaps striving to achieve quite changed ambitions. Society needs, if it is not to burst asunder as it spins ever faster down the years, to be composed of individuals who fit into their places in the social organism as do the cells in a healthy human body; individuals who, seeing that their own welfare is inextricably bound up with that of the group, are willing to make sacrifices when necessary for the social good.

I have not exhausted the catalogue of personal or ethical qualities which society needs in its members, but I spare you further enumeration. Let these stand as illustrative: honesty, industry, initiative, open-mindedness, adaptability, altruism. If our teaching of English can make any important contribution to the development of such qualities it will be an excellent social investment. How can it?

Before we answer this question we must look at another set of social needs. A man may be ever so well intentioned and yet be only a burden upon society, an obstacle to human welfare. There is, for example, a willing, good-natured stupid who sometimes helps us to keep our bit of yard presentable; he has a cleft palate and an intellect scarcely superior to his vocal apparatus. When my wife remonstrates because he has just chopped to bits a clump of wild phlox which we have with difficulty persuaded to grow in one of our crowded beds he will say, "Yes, Missus Hatfield, you did say there was a plant that I was to be careful of, but I thought . . ." His good intentions do not help much. The ass that tried to sit in his master's lap because he saw the dog caressed for so doing gave his master no pleasure and gained nothing but kicks and curses. No one stopped to consider that he meant well. To put the point briefly, the needs of society include knowledge, intelligence, and many skills, as well as qualities of character.

This is not the time or place to list the specific knowledges and the definite skills that are needed. Merely as examples, however,

we may note getting accurately the facts in the newspaper account of a debate in Congress, giving clear directions for the shipment of a consignment of books ordered for the school library, making allowance for the political and social bias in the magazine called *Time* or in the opposed *New Republic*, knowing that—isn't it interesting that knowing does not show social value until it enters into doing, and so becomes part of a skill?—knowing that a pronunciation may be correct although it has not yet got into the dictionary. How can our English work best inculcate these knowledges and skills?

We now have two unanswered questions which may be combined into this one: What activities will, if included in our English course, develop in the individual the character traits, the knowledges, and the skills which the needs of society require? This question I must ask you to hold in mind a moment longer while we consider briefly the individual's needs and rights.

During the last few months educational magazines have printed a number of articles debating the choice between child needs (frequently confused with child whims) and adult needs as the basis for curriculum making. But why the antithesis? Why not take into account both the present (really the immediate future) and the more distant future of adulthood? Let us make our curriculum to meet those present needs of our boys and girls which are most likely to persist as needs in their adult lives. If the boy's or girl's nature is stunted or warped now, the best behavior and achievement ten or thirty years hence is impossible. The farmer who stints his growing calves or pigs in order that he may have plenty of food for the animals when they are grown will not in the course of five years produce the most butter fat or the most pork. Down in the Blue Grass region just south of us, they do not begin to train the six-months-old colts in the gaits and endurance necessary to win their adult races; they merely try to make the healthiest and best-natured colts possible. Are we less sensible than stock breeders? Fortunately the essential needs of the present are, in the main, those most likely to endure. A program based upon the child's present needs, which he can see, has the advantage that it enlists the child more heartily in his school activities. At the same time it insures us and him against spending time and effort on anything which may ultimately prove entirely worthless. Placing the emphasis upon those needs likely to prove permanent will provide an adequate foundation for unforeseeable adult activities.

Now we are ready for the very simple answer to our problem of satisfying the present and future needs of the individual and of the

society of which he is a part. Here it is: Put into the English curriculum the normal activities of the pupils, and guide the children to the socially best performance of these activities. This guidance may involve supplementary activities, especially study by the pupils of the means of performing these acts well.

First we must select and transplant into the classroom a sufficient number and variety of typical life activities of high-school boys and girls. Thus we shall evidently be giving them practice in the skills they most need to acquire. Just as the way to learn to swim is to swim in a pool that is not too deep or too wide, and with proper supervision; just as the best way to learn to ride a horse is to mount a gentle one and set it in motion, so the best way to learn to make social introductions is actually to introduce people, and to gain skill in persuading people to vote with one in an election is to campaign in an actual, not make-believe, election. Speech skills, reading skills, writing skills are much more specific than we used to suppose. Modern psychology will not accept the notion that study of the principles of exposition plus a little formal practice in make-believe explanation of one or two types will prepare pupils to explain everything which they understand. Nor will psychologists approve the attempt to teach organization or sentence sense once for all as a thing in itself. These techniques always occur in life as parts of complex social acts, and to be really learned they must be practiced in school as parts of a great variety of such complex acts of communication. We must, then, find out as many as we can of the specific communication activities in which most of our youngsters actually engage. This must be done for every school, because environmental differences modify these activities considerably.

Next, perhaps, we should attempt to classify these specific communication activities under such categories as casual conversation, conference, story-telling, giving directions, making inquiries, and so on. Except that the categories are more numerous and therefore less likely to be false or meaningless, this seems dangerously like the types of discourse. But wait! The specific communication experiences from which the categories were derived still remain, all under their appropriate heads. They will exorcise any evil spirit of abstraction or formalism. We have now to arrange each of these groups of life activities in the order of their difficulty and social maturity. Each year, each semester, the pupils should make progress in each of these curriculum "strands" or functional centers. If the list of specific activities in each strand is too long, choice must be made of typical examples distributed as well as possible throughout the total range. It is not essential that every slightly variant activity be practiced.

There is, after all, some such thing as transfer of training. I have never driven a Lincoln or a Cadillac, and doubtless these cars differ from my not-too-new Hup in length of levers, in dashboard arrangements, in car weight, turning radius, and other details. Yet if some one should make me a present of a 1932 Lincoln or Cadillac, I think I could make shift to drive it home. But I should probably have trouble with a Model-T Ford or a motor cycle. Just what speaking and writing activities are similar enough for practice in one to produce reasonable ability in the other we must find out.

So much for composition. If there were time I should apply the same philosophy and program to reading. Really our pupils are reading all sorts of materials for a wide variety of purposes or at least under a wide variety of circumstances. They read, or need to read, newspaper stories, editorials, scientific explanations, political arguments, lyric poems, problem plays, mystery stories, clothing advertisements. They read to secure guidance for immediate action, to get general notions, to find specific evidence supporting their opinions, to locate a necessary bit of information, to forget their worries, to gain inspiration. Our former assumption that all these activities are just reading and that when one is learned all are learned is no longer tenable. We must provide practice in handling all these varieties of materials, for this variation of purposes, with proper gradation in difficulty. Nor may we safely assume that the first six grades can give adequate training in reading. The high school must recognize its responsibility for teaching many of the more advanced reading skills as well as the actual reading of literature. The once reputable plan of assigning spelling words without even a hint of methods of study is obsolete; Heaven speed the day when we shall show equal intelligence concerning the reading skills involved in the preparation of a science, history, or literature lesson!

A literature curriculum constructed of normal life activities would consist of contacts with a great variety of ideas and images treated in equally various moods and from diverse points of view; it would provide approaches to literature for a wide variety of motives ranging from the wish to kill time to reading a book to review it, and from reading for social ideas to reading for simple joy in the images presented; and finally it would include training in the interpretation of all the common literary forms and in the mastery of many sorts of reading obstacles. It would not be a course in subject-matter to be swallowed and regurgitated in response to objective tests or essay examinations. It would certainly not consist of instruction *about* literature. Rather it would consist of many, various, rich experiences

with life through literature suited to the present capacities and tastes of the readers. The teacher's choice of titles would shift with the changing personnel of her classes. Such a course would be of maximum immediate value, and would best build the skills and tastes which alone lead to literary culture in adult years. In such a curriculum, free reading—reading freely chosen, whether done in the classroom or at home—would be the most important feature.

Here with literature rather than with workaday composition should be placed the so-called creative writing activities. Perhaps they could better be called belletristic writing—the expression, with at least a touch of imagination, of the individual's most urgent ideas or emotions. The writing of poems, essays, stories, plays, is not, as we used to suppose, an abnormal human activity, to be expected only of geniuses or neurotics. The production of great literature is not possible for most of our pupils, but the pedagogical value of the exercise lies in the effect upon the writer and not in the product. We shall not, perhaps, be able to list so exactly the kinds of self-expression to be expected from children of different ages, nor shall we ever require such work. We shall create conditions favorable to the release of impulses to such self-expression.

We have now a complete program. Our curriculum is to be based upon social needs, the present social needs of our pupils, with emphasis upon those which seem likely to be future needs also. In order to determine these social needs we examine our pupils' activities in other classrooms and outside school. We choose from the resulting array of activities those which are most important, and tentatively add others which we think desirable though not much practiced at present. These *life activities* we transfer to our classrooms, and *they become the curriculum.*

The successful performance of the normal life activities in speaking, writing, and reading will automatically develop in the pupils the knowledges and skills most useful in life. That truth seems to be self-evident. Now let me point out that this guided-activity program will also develop the character traits which society needs so urgently in its component individuals.

You will readily agree that the best antidote for the fear of work is experience of happy, successful work. Open-mindedness may certainly be developed if composition topics and literature discussions provide opportunity for careful study and sincere interchange of opinion upon fundamental issues of life. Formal essays upon "Beauty," "Duty," and "Democracy" are outmoded, but an honest debate upon the desirability of Memorial Day or the best method of

observing it will really stimulate the sort of thinking at which the old general topics unsuccessfully aimed. Initiative may be exercised if the teacher, instead of dictating assignments, creates situations which naturally call for the sorts of activity in which the pupils should engage. Seeing what needs to be done, laying plans, and carrying them through is perhaps the only way in which pupils in school can actually grow in capacity for independent action. That they like the freedom and the responsibility is evident from the numbers that flock into the extra-curricular undertakings; in many schools these are the only activities in which they are not bossed almost beyond endurance. As to co-operativeness, note the almost universal inclusion in the final paragraphs of reports of projects: "One of the most important advantages of this undertaking was the development of social spirit, the willingness and power to work with others."

There remain such distinctly moral qualities as honesty and altruism—compounds of ideals and habits. As Mrs. Charters pointed out years ago, experience far excels precept as a teacher of ideals. Opportunities for ethical choice arise in all departments of school life; the more active and social the school life, the more numerous and urgent these choices. The class undertakings themselves may be unselfish social service, and thus powerful teachers of altruism.

Literature is frequently regarded as a medium for the inculcation of ideals. So it may be. But frequently it has an effect opposite from our intention and sometimes implants unreasoned opinions which ought really to be called prejudices.

We shall do well to consider normal life employments of literature. Do you and I choose our reading for the sake of the inspiration to noble living? Usually not. We read because of our craving for experience—more experience of kinds we have enjoyed, or new varieties of experience. We become interested through titles, through authors' names, through the recommendation of our friends or of critics whose judgment we respect, through illustrations, and so on. We read according to our temporary interests or even the mood of the moment. We talk over the ideas, the sensations, the language of the poem, essay, story, or play, if it interests us deeply and if we have a sympathetic friend. Frequently the issues we discuss are ethical problems, but not always; I cannot imagine our saying in private conversation that Bret Harte's "Outcasts of Poker Flat" shows that even the most vicious characters have their good sides. We are more likely to ask whether such offscourings of society would behave so. Harte's story does not teach any general truth, because one instance is not sufficient basis for generalization; moreover, the

instance is fictitious and therefore only the author's opinion. Yet the story may be the motivating force in a train of thinking which makes us more tolerant toward the faults of other people. Sometimes the vicarious experience of life through literature is so vivid that it affects us emotionally just as the actual experience would. In such cases the ethical situation is so simple as to require little reflection. The altruism of the bishop in *Les Misérables* affects us in this way; so do Rebecca's brave repulse of the Templar in *Ivanhoe* and Beaumanoir's stupid bigotry in the same book. Our opportunity to give moral instruction through literature lies, first, in selecting the literature which we shall make readily available to our pupils; and, second, in guarding the pupils, so far as is possible without dictation, against erroneous conclusions.

The service of creative writing in releasing complexes through indirect and sometimes even unconscious expression is important. For a development of the point, read the ninth chapter of Hughes Mearns's *Creative Power*. Moreover, creative writing and creative dramatics may break down the walls of personal reserve and enable our young people to talk more freely about the ideas and experiences which really mean most to them, and thus to find the comradeship of kindred spirits. At the least it seems certain to make them more colorful personalities and therefore more stimulating friends, more entertaining acquaintances.

The responsibility of teachers, always great, is brought sharply to our attention by the present plight of our government and the general depression. To justify the social investment, education must meet the needs of society, many of which are at present unsatisfied. Society needs certain character traits in each person, and also certain knowledge and skills. The schools can best develop these traits and implant the necessary knowledge and skills by making well-selected normal life activities the principal feature of the curriculum, supplementing them with a study of the best ways of performing them and special practice upon specific techniques involved in them. These activities should include not only the ordinary utilitarian types of composition but discussion of such general topics as will stimulate integration of individual thinking. There is place also for the indirect art expression now called creative writing. Literature of many sorts is to be read with as natural approaches as possible and to be discussed afterward very much as actual experiences would be. Children who live richly in such a curriculum now will, when they replace us as the lords of the universe, rule more happily and wisely than any of their predecessors.

Geographical Aspects of Social Progress

By C. C. HUNTINGTON[1]

THE STATE PROVIDES FREE EDUCATION because an intelligent citizenry conduces to the progress and welfare of society. Education should enable individuals to see moral defects of existing arrangements and should stimulate an active concern in bettering social conditions.

For centuries society remained relatively static, organized on a simple, provincial agricultural basis. One generation was much like another. Today human affairs change rapidly. The complexity, stress, and stimulus of modern industrial and urban civilization came so suddenly that the population, retaining largely the mental and physical equipment of the recent past, can scarcely cope with the problems of the rapidly changing social order. Society will never reproduce the recent past. To avoid general deterioration, we must, with imagination, character, and wisdom, consciously construct a new order of life. Education can best prepare individuals to face this situation. As a forward-looking system, it constitutes a social investment yielding continuous income in character, good sense, and social betterment.

In order for geography to maintain its important place in this reorganizing system, geographers, grasping their opportunity to contribute to the emerging social outlook, must drop selfish differences of terminology and methodology, and must co-operate, not only with one another but with other teachers, particularly those in social sciences.

Last century physical and biological sciences made remarkable contributions to civilization, greatly aiding man to adjust himself and his affairs to his environment. This adjustment of man to environment is the central theme of geography. In the present century the social sciences will probably make the contributions most important to man. As a social science, geography has a fundamental rôle in co-ordinating other social sciences. But geography should not lose its separate entity through any partition-of-Poland procedure by other studies, because its own field is distinct and important. Amalgamations, such as history, civics, and geography, in so-called "social studies" courses, seeking objectives with unattainable rapidity, en-

[1] Ohio State University.

courage jack-of-all-trades teaching, and seldom give due weight to the geography component. Thus, a recent book, *Culture and Education in America,* by an advocate of that system contemplates an unattainable objective in stating that " 'to educate,' therefore, means to provide an environment and experience that will develop in every boy and girl in America the traits of the cultured man." It expects, moreover, that every ordinary teacher "must write, paint, sing, create," and be original in his creative work, finding his standards "in his own inner vision,"[2] which expectation seems quixotic, not to say idiotic. We need trained geography teachers to teach geography.

Modern geography teaches conservation of human resources as well as of natural resources, for herein lie the foundations of national prosperity. It does not teach environmental determinism, a theory that environment explains everything; but it shows that other factors enter in, such as heredity and training; that is, education. Geography considers social progress the result of the joint efforts of man and nature, wherein man is the active, directing agent. The old idea of "the human response" to determining "environmental controls" has given way to the modern idea that the human factor is just as important a geographic agent as is the environment, and often more so.

Throughout the ages the progress of civilization has been marked by man's continually increasing control over his environment. From the geographical point of view, as he has adapted, brought under control, and utilized, one after another, the animals, the plants, the soil, the minerals, and the forces of nature, man has thereby advanced from the primitive hunting and fishing stage to the pastoral and the agricultural stages and, finally, to the modern age of industrialization. Man's geographical adaptability to his environment being not only physical and mental, but also social, and his geographical relationships being not only local and national, but also international, it seems logical that geography should hold an important place in any educational system for understanding and advancing social progress.

Economic Geography in Modern Life

By C. LANGDON WHITE[3]

ECONOMIC GEOGRAPHY DEALS with the distribution of natural resources and the interrelationships that inevitably follow as human beings endeavor to make a living. That primitive peoples are closely

[2] Rugg, Harold. *Culture and Education in America,* p. 297.
[3] Western Reserve University.

adjusted to the natural environment, which may be likened to a mold into which humanity has been poured, is universal knowledge; the Eskimo, the Kirghiz, the Pygmy would be swept from the earth, should they fail to follow the rules dictated by nature for their particular habitats. But what of those who dwell in the favored spots, such as northwestern Europe and eastern North America, must they too adjust their activities to the natural milieu? Assuredly, yes. In the rural sections, the adjustments are simple and direct, though obviously less so than among such primitive folk as the Eskimos; but in the great urban centers, they are subtle, complex, and indirect.

So superficial has become their mode of living and so seldom are they inconvenienced by physical phenomena, that city-dwellers seldom think of their relation to earth conditions. They assume that man no longer needs pay tribute to nature, that he has, through science, conquered her. In short, they consider human intelligence and ingenuity all powerful—a consequence, no doubt, of the fact so forcefully stated by Miss Semple: "Man has been so noisy about the way he has 'conquered Nature,' and Nature has been so silent in her persistent influence over man, that the geographic factor in the equation of human development has been overlooked."[4]

Examples of economic geography in everyday life are innumerable and permeate all human activities. In this brief summary, however, only a few high spots can be mentioned. The manner of exploiting coal, petroleum, and natural gas in the United States is highly regrettable. About 40 to 50 per cent of the potentially marketable coal is left in the mine, of which 14 per cent is avoidable waste; three barrels of petroleum are left in the ground for each barrel recovered, and probably more than 2,800,000,000,000 cubic feet of natural gas (the equivalent of the amount consumed each year) are wasted annually. But why? Primarily because of too much competition: in the case of coal, the productive capacity of the mines is approximately double that of the normal consumptive demand; hence only the best and most accessible coal is mined. Much is wasted also in transport from mines to marts as well as in burning, it being estimated by engineers that only a fraction of the potential energy of coal is converted into power in the average steam engine. In the case of petroleum, the greatest waste is consequent upon unbridled competitive drilling. With natural gas, waste is due largely to leaking pipes, disinterested producers (they were seeking oil), distance from wells to markets, and the tremendous cost of laying pipe lines.

Opportunity exists in all industrial cities to observe good and bad adjustments to physical environment. Early in our industrial history

[4] Semple, Ellen C. *Influences of Geographic Environment*, p. 2.

many communities gained factories primarily because the owners wished to continue living in the home town. Often these plants survived, frequently they perished. Four factors influence plant location: raw materials, power, markets, and labor. Three of these are inseparably related to transportation, the key to economic progress. Companies now give much consideration to plant location, for moves are costly and mistakes irrevocable; hence detailed scientific surveys are made similar to that of the Dunlop Tire and Rubber Company, which analyzed the advantages and disadvantages of twenty-four cities between the Mississippi River and the Atlantic seaboard before selecting Buffalo for its costly new plant. Chief among Buffalo's assets were: ample frontage on the Niagara River for wharfage facilities; water transportation to Cleveland, Chicago, and Detroit; excellent rail facilities; direct water transportation to New York City, the leading port of entry for raw rubber; proximity to power-producing plants of the Niagara frontier and to the coal fields of Pennsylvania; and an inexhaustible supply of water chemically suitable for rubber manufacture.

Interesting and significant is the movement of metallurgical plants to Michigan, especially to metropolitan Detroit. Since freight plays so important a part in steel distribution, low costs on raw materials do not always offset the expense of long hauls on finished steel. For instance, the present freight rate on finished steel from Pittsburgh to Detroit is about $4 per ton above the switching charge which Detroit plants pay to lay down their steel at the automotive plants.

The case of Pittsburgh is particularly interesting for that period following the abolition of Pittsburgh Plus by the Federal Trade Commission in 1924. Until then, the Pittsburgh district, capital of the world's metallurgical industry, had not suffered in the marketing of its products, for the entire nation was its market; the abolition of the practice, however, so greatly restricted its market that it would have suffered irreparably had not its leaders broken through the cordon of high freight rates by sending industrial navies over the waters of the Ohio and Mississippi rivers thereby effecting savings of several dollars per ton. But this could not have been accomplished had not the Federal Government, by means of dams and locks constructed at a cost of more than $100,000,000, maintained a 9-foot stage on the Ohio River throughout the year. As a result of these activities, Pittsburgh disposes of steel as far distant as Houston, which would be outside its natural trade territory and hence would be locked to it if rail transportation had to be resorted to.

Economic geography also functions in the successful operation of mines. Were it not for the huge reserves of ore, the tidewater loca-

tion of mine and mill, the cheap and abundant supply of hydroelectric power, and the equable climate which favors year-round operation, the Alaska Juneau Gold Mine, which contributes half the gold of Alaska and which gets the equivalent of only two pinheads of gold from a whole ton of ore, could not possibly operate at a profit.

Even in our everyday international relations one promptly discovers the basic significance of geography. Many a maneuver and skirmish on the international stage since 1919 has had its origin in the struggle for petroleum; the war proved to the world the strategic value attached to oil, both in war and in peace. Lord Curzon truthfully stated on the day peace was declared, "The allies floated to victory on a sea of oil."

Values of Geography

By DEFOREST STULL[5]

GEOGRAPHY DEALS WITH A VAST FIELD OF KNOWLEDGE. As such, it may be pursued in everyday life or studied as a subject in the elementary school, junior and senior high school, college, and university. The growth of geography in the universities of the United States since the beginning of the present century has been nothing short of remarkable. Among adults, both in and out of the educational field, trained under an older régime, there is altogether too much of a tendency to regard geography, not as a body of organized knowledge, but as a school subject dealing with locations per se, boundary lines, and other incidental facts which could readily be exhausted in the elementary school.

Geography is an old as well as a new field of knowledge. As a study of the earth and its inhabitants, the older interpretation, it goes back to the ancient Greeks. As a study of the interrelationships existing between human beings and the natural environment, it goes back only to about the middle of the nineteenth century. Our schools are just beginning to feel the importance of the newer point of view which regards geography as a study of human beings trying to adjust themselves to the natural environment.

What are the economic values of geography? A knowledge of geography helps one to make a better living. Up to the present time the teacher furnishes the best illustration under this category. We now have trained geographers in some of our universities and in nearly all of our normal schools and teachers' colleges. Without

[5] Teachers College, Columbia University.

some geographical training they would not have secured the positions which they now hold. Furthermore, teachers in elementary and junior high schools must have some geographical training in order to do really efficient work. Then, too, there are a few trained geography teachers in our senior high schools, who, because of that training, are doing first-class work.

Unfortunately, it is in the senior high school that a great gap in orderly geographical training occurs because here we find few offerings and fewer trained teachers. Let us hope that one of the most valuable educational movements of the next few years will be to put more geography and more geographically trained teachers in our senior high schools. In the secondary schools of the British Isles, France, and Germany, geography has a prominent place in the curriculum. Surely, our high-school graduates should be better informed about the nations of the world; they should know more about the production, distribution, and consumption of commodities; they should have a better attitude toward the conservation of natural resources and other topics treated in modern geography.

Furthermore, there is a growing demand for the professional geographer in the world of business and politics. For a number of years, Helen M. Strong, chief of the geographic section of the United States Department of Commerce, has taught those around her that a problem may be analyzed from a geographical point of view as well as from other points of view. Incidentally, the United States Bureau of Foreign and Domestic Commerce publishes some of the most valuable geographical material issued by our government; Wallace W. Atwood, Isaiah Bowman, J. Russell Smith, Albert P. Brigham, Nels A. Bengston, Douglas W. Johnson, and others have been called in as consulting experts by various departments of our government. Some manufacturing establishments employ trained geographers. In fact, may we not reasonably look forward to the time when all of those companies which are engaged in foreign trade will need geographers trained in our schools of commerce, business administration, and the like? It is true that the professional geographer is not consulted as frequently as the trained geologist, physicist, chemist, economist, and others, but with a clearer understanding of the content of the field with which he deals, may we not expect that his expert opinion will be more frequently sought on problems of state, land utilization, town and city planning, domestic and foreign commerce, manufacturing, and other matters of public as well as private concern?

Although he has no proof to offer, the writer believes that a man engaged in any of the major occupational activities will, other things being equal, make a better living if he has a knowledge of geography

than he will make without such knowledge. Certainly, the farmer who knows something about the relation of weather and climatic conditions to crop production, who understands soil geography, and who studies market conditions has a great advantage over one who lacks this knowledge. F. A. Carlson, of Ohio State University, has the following to say about agricultural geography:

> That geographers should give greater attention to agriculture is the most natural and expected trend of development as there are no means of illustrating the relation of natural environments to life that exceed those established in agriculture. The subject is not only of theoretical value for the illustration of geographical relations, but it also has a practical application. It offers an opportunity for information about the agricultural regions of the world, continents and countries: the staple food crops of domestic and foreign importance; the relations of climate, topography, soils, and crops; and the relation of the industry as a whole to man.[6]

Let us grant that there are many successful farmers who have very little knowledge of organized geography acquired in school; nevertheless the information is theirs though it is acquired possibly in the University of Hard Knocks and Trying Experiences.

Then, too, how can the manufacturer be a success who ignores the sources of his raw materials and the means by which they may be obtained; who disregards his markets and the methods by which they may be reached; who fails to give due consideration to problems of power, labor, capital, means of communication, and other factors which the geographer must take into account when he studies a manufacturing industry? The question, of course, implies a negative answer. Again, let it be granted that successful manufacturers have acquired their knowledge, not in organized geography study, but in the school of experience. On the other hand, many so-called hard-headed business men have experienced dire failure because they ignored some of the very facts and principles with which geography might have made them familiar. Of course, both the farmer and the manufacturer may be caught in a maelstrom of economic conditions over which neither has any control. Witness the economic depression through which we are passing. Knowledge of all kinds seems to be useless when we are beset by economic tornadoes. Even the proverbial hard-headed business man reveals many soft spots.

James Fairgrieve, a professor at the University of London, has the following to say about the economic values of geography:

> In the first place, though it is not a point that need be pressed, geography pays. Earning one's living may be easier with a knowledge of geography

[6] Carlson, F. A. "Agricultural Geography," *Journal of Geography*, XXV (November, 1926), pp. 313–14.

than without it. It would seem self-evident that, with the widespread business interests of the inhabitants of Britain, some knowledge of other lands would be desirable. To put it at its lowest, it pays to have some knowledge of the conditions under which people live, who are purchasers or possible purchasers of British goods; the more geography is known the better trade is likely to be served. As a matter of fact this is the case. Successful business firms do study the tastes of other people and the conditions of foreign markets. Even so, however, it may be doubted whether the value of geography as such to the business man is at all understood. There is probably no commercial house in Britain, carrying on business all over the world, whose advisory accountant has recommended that a professional geographer be appointed, to whom heads of departments could refer for advice on matters of business, and it is still less probable that such a recommendation has been acted on. Yet such a recommendation has been made and acted on in New York, simply because it paid.[7]

A knowledge of geography helps one to be a better citizen of his local community, of his state, and of the world. A geographer has a sympathetic attitude toward all phases of town, city, or regional planning. He realizes that the adjustments of human groups to the natural environment in the past have been more or less haphazard and unplanned: "Today, man is everywhere becoming conscious of the defects of the existing adjustment and is finding the problem of geographical readjustment more insistent even than that of economic enterprise."[8]

The object of these regional plans is to determine and to recommend how the land may best be used within a particular environment. An attempt is made to answer such questions as the following:

How may the communication and transportation needs of a community be met in the best way? The American Telephone and Telegraph Company is really employing the grammar of geography when its experts predict the future growth of a city and plan its communication facilities accordingly. Where may the residential development of a city take place for the best health, happiness, and economic welfare of its inhabitants? Where shall the manufacturing plants be located so that they will interfere least with the residential district and at the same time make for an increased industrial efficiency of the region? How may the historical associations and beauty spots best be preserved for the enjoyment of present and future generations? Where shall the public parks and playgrounds be located so that recreational facilities will not be denied to those who are now living and those who come after?

In these and similar problems, the geographically trained person

[7] Fairgrieve, James. *Geography in School.*
[8] *Ibid.*

will take a whole-hearted interest and lend his support to the plan which appears best for the community. The regional plan of the New York City district furnishes one of the finest illustrations of this type of work. Many experts over a long period of years gave their valuable time to planning the development of this great metropolitan district, so that the inhabitants thereof would be happily and economically served.

In the exploitation of our natural resources, we have been a wasteful people. The United States has been one of the most favored of the nations. Its resources of coal, iron ore, petroleum, natural gas, copper, lead, zinc, and many other useful minerals and mineral fuels were unsurpassed. Probably one-half of the country was originally covered with virgin timber and useful forests. Fertile soils were varied and widely distributed. The very prodigality of nature has caused us to be careless. The forests have been slaughtered in a wholesale fashion so that future generations are threatened with a timber famine. Not only that, but soil has been washed away, streams have been polluted, navigation of our twenty-five thousand miles of internal waterways has been interfered with, and destructive floods have caused millions of dollars' worth of damage.

As a good citizen, the geographically trained person believes that these natural resources should be economically developed in such a way that future as well as present generations will profit thereby. He favors the state and national purchase of essential forest lands; he believes in soil preservation and conservation; he opposes a tax on standing timber; and he believes that our coal, natural gas, and petroleum resources should not be wasted in such a wholesale fashion. Understanding these things, his vote will be cast for the proper kind of legislation when the question of regulation arises as an issue.

Furthermore, one trained in geography should be a good citizen of the world. The writer believes that an understanding of geography may well lead to a better understanding and appreciation of other peoples and their problems, which will make for better international attitudes. He realizes the interdependence of the people of the world. Recently, we have been much disturbed over events in the Far East. In the writer's opinion, there has been much unintelligent criticism of the policy of the Japanese in Manchuria and Inner Mongolia. Japan proper is not as large as our own state of California but has a population of about sixty-five million, which is two-thirds of our entire number of people. Further, much of this area is mountainous, only about 15 per cent being capable of cultivation by the most intensive methods and under the most trying circumstances. Imagine sixty-five million people trying to gain a living from a tillable area

equal to one-half the size of the state of Iowa, and you have a picture of the most pressing Japanese problem, population pressure and inadequate home, food, clothing, and shelter supply. Not only that, but this population is increasing at the alarming rate of about one million per year. Can you blame the Japanese for looking with longing and envious eyes upon the unused spaces of Manchuria and Inner Mongolia? The United States says to the world, partly through the Monroe Doctrine, "You must keep out of the Western Hemisphere because we wish to reserve that area for our own economic and even political exploitation." Great Britain, France, Italy, and Russia say to the world, "Keep out of Africa, Australia, most of Asia, and all of Europe. We reserve those areas for our own economic and political exploitation." Can you blame the Japanese for saying to the world, "At least, give us a chance in our near-by continent of Asia"? The white race, with about one-third of the world's population, controls about nine-tenths of the world's land area. How can Western nations blame the Japanese for wanting to have their own little place in the sun? How silly to advocate the boycott of Japanese goods in the face of our own national history of territorial aggression!

The same Mr. Fairgrieve comments on the social values of geography:

> The real value of geography lies in the fact that it helps man to live; it helps man to place himself in the world, to learn his true position, and what are his *duties*. Geography enables man to know where he stands with regard to his fellows, so that he will neither exaggerate nor diminish his own importance; it enables us to understand other people, to some extent, by comparison with ourselves. By a study of geography we are enabled to understand facts without a knowledge of which it is impossible to do our duty as citizens of this very confusing and contradictory world.[9]

What are the cultural values of geography? A geographically trained person is a more intelligent reader of newspapers, periodicals, and books. He has a background of information and understanding which causes him to select the best and read the best things in current newspapers and periodicals. The writer is a persistent reader of the *New York Times* and spends a considerable amount of time upon the Sunday edition, especially the special features and magazine sections. He feels sure that his all-too-meager geographical training causes him to select articles by such authorities as Herbert Adams Gibbons and George E. Sokolsky on the Far East; Stephen P. Duggan on Latin America; P. W. Wilson, Charles Merz, and Harold Callender on the European situation; and various other writers on conditions in the United States. Frank H. Simonds' articles in the

[9] *Op. cit.*

American *Review of Reviews* and such books as his most recent one, *Can Europe Keep the Peace?* are attractive to the geographer.

Literature which is geographical in nature and geography which has literary merit appeal to one who is geographically minded. He loves to visit China with Mrs. Pearl Buck; he enjoys vicarious excursions to Latin America and Africa with Theodore Roosevelt and Lord Bryce; Lafcadio Hearn lures him to the land of the cherry blossom; Rudyard Kipling gives him a glimpse of India; Maurice Hindus introduces him to the problems of Russia; and Stuart Chase gives him a new view of Mexico. He appreciates the local color in literature, much of which has geographical value.

One who is trained to think geographically has a sympathetic attitude toward other fields of knowledge. He believes in the old slogan, "Live and let live!" Although the field of geography is the consideration of man's active adaptation to his natural environment whether regional or national, geography must draw its facts for its own purposes from many other fields of knowledge. It is impossible for a geographer to be narrow-minded in his point of view. Knowledge is one, after all, for all knowledge is interrelated. Science, history, art, literature, philosophy, and religion, each has its contribution to make toward the development of human character. Geography is a science and is intimately related to all of the other sciences; it also furnishes a background of relationships to the other fields of knowledge.

Finally, not only does geography furnish a vast amount of valuable vicarious travel, but it adds greatly to the enjoyment of travel when it is undertaken. The study of people, how they live and work and play, how they are influenced by their environment or how they react to it, shows the beauty in the curves of rounded hills or winding streams, the inspiration in mountain peaks and heights, and the strength in rugged coast lines. The love of a people for the topography and climate with which they are familiar is an almost universal trait. "I love thy rocks and rills" may portray the feelings of the people of one section but not necessarily those of all sections. One is reminded here of the retired mid-western farmer who built a palatial home in California. A visiting friend greatly admired the beautiful home and commented that he must be very happy and contented. "Yes," said the old farmer, "but I would give it all for one good old North Dakota blizzard."

These are trying times. We are probably living in the midst of one of the worst depressions which ever struck our people or the people of the world. In fact, because of the interdependence of this modern world of rapid communication and transportation, one might

call this the first great world-wide depression. Statesmen, economists, international bankers, and politicians do not seem to see the way out. One opinion seems to be about as good as another. The solution of the world's ills will rest in the hands of coming generations. Are we to allow them to grow up with such international attitudes and hatreds as have helped to bring on the present world crisis? The writer hopes not. The only ray of light which he sees for the future is in the field of education. Let us not curb too sharply our educational appropriations in these times of storm and stress. Let us educate the present generation in that type of national-mindedness which will make for better international-mindedness. Geography is one of the fields of knowledge through which this accomplishment may be realized. The problems of modern life, serious as they are, have a strong geographical setting which our schools and our people can no more afford to ignore than they can neglect the contributions of the other fields of knowledge.

Organizing the School for Guidance

By RUDOLPH LINDQUIST[1]

THE GUIDANCE MOVEMENT is a phase of the revolt against classical education and the failure of this education to take account of the numbers of children brought into the school by an increased economic surplus. Another phase of this revolt is curriculum revision. Both guidance and curriculum revision were comparatively simple when a much smaller and socially more limited group attended the schools; they were matters to which the teacher attended. As numbers grew, teachers still continued to attend to these matters, but they were teachers who had been excused from a portion of their classroom work for service on curriculum committees or as counselors. Lately some of these have developed into full-time curriculum specialists and guidance experts.

These changes, while seemingly forced upon us by the problem of dealing with great masses of children, have not been altogether for the good of American education. In separating the functions of guidance and curriculum development from teaching, something of vital importance to child development has disappeared.

The ideal guidance counselor is probably a member of the teaching staff. The introduction of a specialist having no connection with formal teaching only emphasizes the unfortunate separation of guidance from the school, which has already taken place in some cases. If the teacher is one the student knows personally, the chances for acceptance of the counselor's advice are greatly increased.

Deans often have an interest in this all-round, purposeful development, but they usually lack intimate, first-hand knowledge of the child in his various activities, and often they lack the necessary training in biology and psychology. Contact with the child is a more or less formal affair in an office, and the sources of information are written records which have been made by others. Counselors often share the dean's interest in the all-round development of the child, and, in addition thereto, they are often well trained in biology and psychology, but they fall as far short as do the deans in the matter of first-hand acquaintance with the child in his various activities.

[1] Ohio State University.

Teaching counselors have at least one advantage in that they know some of the children quite well in connection with one subject, but they usually lack the scientific training on child development and they also lack any real understanding of what is meant by all-round development.

There is a possibility of selecting from among the various subject teachers one whose contact with children is in some rather informal activity, whose training can be most easily extended to cover both mental and physical health, and whose work permits him to spend a portion of his time in each classroom. Such a counselor may well be the physical-education teacher since his contact with pupils is already on an informal, a "play" basis. Such a person must, of course, have more knowledge of what constitutes sound physical and mental development than teachers ordinarily possess. Extensive knowledge of biology and psychology is a necessary part of his equipment. As yet the training programs of directors of physical education and of health teachers do not contemplate any such breadth of work, but the leaders in this profession do envisage such a development and therein lies hope.

Such a man would not need to rely on formal fifteen-minute interviews to learn about children. He would see them daily in the activity in which the child is most nearly himself, in play. He would supplement this knowledge by watching the child at work in the classroom. On the basis of this knowledge of the child and of the various activities in which he had engaged, both required and voluntary, the counselor could advise him and his teachers toward wholesome development, both mental and physical, which, after all, should be the aim of all guidance.

Leadership Guidance

By ARTHUR J. JONES[2]

LEADERSHIP IS A UNIVERSAL HUMAN PHENOMENON, but it is seen not only in all human relationships, but also among all animals that lead a gregarious life. We cannot suppress it if we wished; we can only direct it and utilize it for human betterment.

It is entirely unnecessary to spend time in attempting to show the need for leaders and their value to all forms of social relationships. We know that progress as well as stability of society is dependent in large measure upon them. The direction taken by any nation or any social group is determined by the kind of leaders it has. No problem

[2] University of Pennsylvania.

that faces this country today is more important than the selection and training of leaders; the world-wide depression that so paralyzes industry and unsettles methods of living was brought about by unwise, unintelligent leadership. The world waits in dread anxiety for a real leader who will point the way out of the present chaos and direct us to an economic and social organization that will make war impossible, that will prevent the recurrence of a condition which causes many to be hungry in the midst of an abundant food supply and thousands to be jobless who are eager to work. How then can we select and train leaders? What help has guidance to offer in this emergency?

What are the characteristics of a leader, and what different kinds of leaders are there? We may say that a leader is one who influences others to do something. In this sense everyone is a leader, for we all influence others to some degree or in some way. We are, however, just now interested in what we might term outstanding leaders—those whose influence over others is compelling, unusual. One of the most conspicuous weaknesses of our usual discussion of leaders is the narrow point of view which we adopt. Too often we think of leadership in terms of the lawyer, the statesman, the general, or the preacher. We conceive of the leader as the man who influences other men directly by the force of his personality or by more or less direct personal contact. We can see at once that this is inadequate and incomplete. While leaders in common with all other human beings defy accurate classification, for purposes of this discussion we may recognize at least three types: First, there are the leaders who influence others more or less directly through personal contact of some kind, the politicians, statesmen, generals, lawyers, and preachers. Second, there are the creators who never come into direct contact with other people, the inventors, explorers, and research workers. Third, there are the great musicians, artists, and writers, whose influence is not due to their personal relationship. We should distinguish, also, between those leaders, chiefly of the first type, whose influence is immediate and those whose influence is delayed sometimes until long after death.

If we are to establish anything like an adequate arrangement for the selection and training of leaders, we must provide for these three kinds of leaders; devise methods by which we early can discover those who probably will develop into outstanding leaders; arrange methods by which these prospective leaders may be guided and trained so that leadership may be both intelligent and progressive; and develop the ability in our young people to choose wisely whom they will follow.

The first question that is presented to us is, "How can we discover

the young people who will become leaders in later life and discover them early enough to make it possible to provide adequate training?" The solution of this problem is dependent upon our ability to analyze leadership and determine what the characteristics of leaders are. There have been many attempts to list the characteristics of leadership; some of these are helpful and some are not. Most of them are purely or largely subjective and seem to have been devised by someone who was thinking only of such leaders as generals, statesmen, and preachers. Writers do not agree on the essential characteristics of leaders. In a recent study Gerald L. Zimmerman analyzed fifty magazine article and books on leadership and listed the characteristics mentioned. There were in all over two hundred different qualities and characteristics. Most of these were mentioned by only one writer. Omitting all those characteristics that had been mentioned only once, the list was reduced to 66. Selecting from these the ones mentioned by at least five authors, we have the following list:

Characteristics of Leadership	Percentage of Mention	Characteristics of Leadership	Percentage of Mention
Courage	30	Open-mindedness	14
Intelligence	28	Knowledge	12
Vision	26	Self-confidence	10
Initiative	16	Sympathy	10
Insight	14	Energy	10
Personality	14	Sincerity	10

George V. N. Dearborn lists eight characteristics as follows: intelligence, initiative, courage, self-trust, insight, kindliness, good humor, and knowledge of human nature. Of this list the first five are common to the list found by Zimmerman. A list by Harry C. Ganders gives fourteen qualities, very few of which are found in the two lists already given.

As has been said, these lists are largely subjective. A more reliable method of approach would be to study the lives of many leaders of different types and to attempt to find the characteristics or combinations of characteristics which are common to all leaders or are common to certain types. This could be done by an analysis of the reliable biographies of leaders. Fortunately we do have one outstanding study that was made from this point of view.

In 1913 Lewis M. Terman, of Stanford University, began a study of exceptional children—those who were of unusually high intelligence as judged by various mental tests. This study was considerably enlarged and extended by reason of two grants from the Commonwealth Fund. Under this subvention Mr. Terman began a more systematic study of a thousand children, each having an

intelligence quotient of over 130. Many measurements were made and observations recorded for these children. Ten years later a follow-up study was made, the results of which have not yet been published. This study should give some data which may be helpful in determining the characteristics that persist at least over ten years. If these children can be kept under observation until they reach the age of thirty or forty, still further evidences may be secured.

Another part of this study more nearly concerns us here. This was an investigation into the early lives of three hundred outstanding leaders or geniuses in a variety of fields. One hundred of these geniuses were selected, and their recorded biographies were carefully analyzed to find what characteristics or traits they showed when they were young. In all, sixty-seven traits were listed. Several judges read the biographies and rated each genius on a seven-point scale for each of the sixty-seven traits. If an individual possessed a given trait to an average degree, he was rated 0; if he had it to an extraordinary degree, he was rated plus 3; if he lacked it entirely he was rated minus 3. Ratings of plus 1 and plus 2 and minus 1 and minus 2 were given as intermediate steps. These leaders or geniuses were arranged in eleven groups or types as follows:

Artists—
- Canova
- Hogarth
- Michelangelo
- Murillo
- Raphael
- Reynolds

Poets—
- Burns
- Byron
- Chatterton
- Coleridge
- Hugo
- Lamartine
- Milton
- Schiller
- Tennyson
- Wordsworth

Musicians—
- Hayden
- Mozart
- Rossini
- Wagner
- Weber

Historians—
- Gibbon
- Guizot
- Macaulay
- Niebuhr
- Prescott
- Carlyle

Soldiers (statesmen)—
- Cromwell
- Garibaldi
- Jackson
- Napoleon
- Washington

Soldiers (fighters)—
- Grant
- De Marmont
- Murat
- Ney
- Nelson

Scientists—
- Agassiz
- Arago
- Cuvier
- Darwin
- Davy
- Gay-Lussac
- Laplace
- Von Liebig
- Newton

Philosophers—
- Bacon
- Comte
- Cousin
- Descartes
- Fichte
- Hegel
- Kant
- Leibnitz
- Locke
- Mill
- Von Schelling
- Schleiermacher

Religious Leaders—
- Chalmers
- Calvin
- Channing
- Luther
- Wesley

Revolutionary Statesmen—	Robespierre	Fox (C. J.)
Di Cavour	Statesmen—	Jefferson
Danton	Brougham	Lincoln
Mazzini	Burke	Peel
Mirabeau	Canning	Pitt (the Younger)
	Cobden	Webster[3]

Table I gives these ratings for each group of leaders. In order to make it possible to compare each group, the ratings are arranged in rank order according to median ratings for the groups as a whole. In Column 14 will be found the trait number of each trait as given by Miss Cox in her study.

Before considering the table in detail it may be well to quote some significant conclusions made by Miss Cox: "Youths who achieve eminence have, in general, (a) a heredity above the average and (b) superior advantages in early environment." "Youths who achieve eminence are distinguished in childhood by behavior which indicates an unusually high I.Q." [150 to 200]. "The extraordinary genius who achieves the highest eminence is also the gifted individual whom intelligence tests may discover in childhood." "Youths who achieve eminence are characterized not only by high intellectual traits, but also by persistence of motive and effort, confidence in their abilities, and great strength or force of character."[4]

Another conclusion which she draws is that some traits and trait elements appearing in childhood and youth are diagnostic of future achievement: an unusual degree of tendency not to be changeable, tenacity of purpose; perseverance in the face of obstacles, combined with intellectual energy; mental work bestowed on special interests; profoundness of apprehension; originality of ideas; and especially desire to excel, ambition.[5]

This may easily be seen from the table. The first eleven traits are for most groups quite significant. By glancing down the list many other similarities will be seen. On the whole the lower down we go in the list, the less striking the traits become; that is, the less difference there is between the geniuses and ordinary people. While there are many points of agreement, significant differences appear. For example, in the trait ranked 2, strength of will, all groups have developed this trait above 2 except the group of poets, novelists, and dramatists. In the trait ranked 3, the two groups of soldiers are not conspicuous. In the traits ranked 4 and 5, we again see the group of

[3] Cox, Catharine M. *The Early Mental Traits of Three Hundred Geniuses*, pp. 194–95.

[4] *Ibid.*, pp. 215–18.

[5] *Ibid.*, pp. 179–80.

poets, novelists, and dramatists as inconspicuous. In the trait ranked 17, a great variation in strength of trait is seen. Essayists, critics, historians, and philosophers are conspicuously lacking in it, while soldiers manifest it to a very striking degree. In the trait ranked 25, action based on reason, scientists, philosophers, and statesmen are very conspicuous. In Trait 35, tact, the only group that is conspicuous is that of statesmen. Another helpful comparison would be to contrast the traits of statesmen and revolutionary statesmen and also to compare soldiers (fighters) and soldiers (statesmen).

One point of great importance is clearly seen: leadership is a resultant not merely of one or two traits possessed in a conspicuous degree but of a combination in varying degrees of several traits. How can these results be used in leadership guidance? In the first place, it should give us a better idea of the traits and characteristics for which to look. As an illustration, the traits listed by boy-scout executives as desirable objects of endeavor are as follows: trustworthiness, loyalty, helpfulness, friendliness, courtesy, kindness, obedience, cheerfulness, thrift, bravery, cleanliness, and reverence. These are called character traits, to be sure, but are looked upon also as leadership traits. In Table I the nearest equivalents to these traits are underlined. A comparison of these with the traits of leaders will show that these are characteristic of certain groups of leaders only, and of religious leaders especially. We should have in mind a wider range of characteristics than those mentioned by the boy-scout executives if leadership selection and training are to be effective. We should remember the artist, the musician, the scientist, the inventor, and the writer.

In the second place, we must remember that leadership does not show itself in a social vacuum. It must have appropriate situations in which to function. We should, accordingly, provide abundant opportunities for leadership of all kinds to show and to exercise itself. It is England's boast that its leaders were produced on the playgrounds of the great public schools. This may or may not be true, but it is not safe for England or any other nation to depend upon the athletic field as the chief agency for leadership training. Not only the athletic field but student government, the various students' clubs, and the regular classroom activities must be utilized. Athletics must be reorganized so as to allow more complete opportunity for the manifestation of leadership ability and for its training. Classroom activities must become more dependent upon the direction of the pupils.

Probably the most important function of guidance in leadership, next to providing opportunity for leadership to show itself, is that of

Table I[a]
Youthful Trait Ratings of Leaders

Trait	Rank	Artists	Musicians	Poets, Novelists, Dramatists	Essayists, Critics, Historians	Scientists	Philosophers	Religious Leaders	Soldiers (Fighters)	Soldier-Statesmen	Revolutionary Statesmen	Statesmen	Trait No. (Cox)	Median
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Desire to excel	1	2.9	2.9	2.5	2.7	2.6	2.6	2.8	2.7	2.4	2.2	2.9	9	2.7
Strength of will	2	2.3	2.7	0.6	2.0	2.8	2.6	2.7	2.8	2.6	2.2	2.6	42	2.6
Mental work on special interests, pleasures	3	2.0	2.9	2.6	2.8	2.8	2.8	2.6	1.1	1.1	2.7	2.3	29	2.6
Persistence in tasks	4	2.1	2.9	0.8	2.1	2.6	2.5	2.9	2.7	2.4	2.9	2.3	33	2.5
Work toward remote ends	5	2.3	2.6	0.4	2.1	2.7	2.3	2.4	2.4	2.0	1.9	2.5	32	2.3
Forcefulness	6	1.6	1.3	1.4	1.8	2.3	1.4	2.8	2.5	2.5	2.8	2.4	60	2.3
Originality of ideas	7	2.3	2.5	2.5	2.0	2.7	2.8	1.6	0.8	0.7	2.4	1.5	38	2.3
Strength of memory	8	1.1	1.7	2.1	2.7	2.3	2.3	2.2	0.2	0.9	2.3	2.4	48	2.2
Profoundness of insight	9	1.3	1.3	2.2	2.5	2.8	2.9	2.7	1.1	1.5	2.0	2.4	36	2.2
Belief in own powers	10	2.1	2.7	1.5	2.0	2.3	1.7	1.8	2.6	2.0	2.7	2.9	12	2.1
Esteem of his talents	11	1.9	2.0	2.1	1.8	2.1	1.4	2.3	2.0	1.4	2.4	2.5	13b	2.0
Desire to impose his will on other people	12	0.3	1.3	1.9	1.9	1.1	1.3	2.5	2.2	1.9	2.9	1.8	10	1.9
Quickness of insight	13	1.3	1.9	1.7	1.8	2.2	2.5	1.4	2.0	1.7	2.4	2.4	35	1.9
Intensity of influence	14	1.3	1.7	1.8	1.9	1.8	2.0	2.5	1.2	1.7	2.5	2.7	26	1.8
Keenness of observation	15	1.8	1.4	2.3	1.8	2.7	1.4	0.9	1.6	1.8	1.9	1.8	64	1.8
Trustworthiness	16	0.8	0.6	1.0	1.9	1.7	1.7	2.9	1.5	2.3	2.4	2.5	20	1.7
Self-expression action	17	0.8	0.9	-0.8	-1.5	0	-1.6	1.6	3.0	2.6	1.7	0.9	31	1.7
Wideness of influence	18	1.1	1.4	1.6	1.1	1.4	1.2	2.1	2.2	1.9	2.6	2.2	25	1.6
Absence of readiness to accept others' opinions	19	0.3	1.0	1.7	2.1	2.3	2.3	1.3	1.5	1.2	2.5	1.4	23	1.5
Sense of justice	20	0.3	0.6	1.0	1.8	0.7	1.4	1.9	1.2	1.8	1.9	2.2	51	1.4
Conscientiousness	21	0.8	1.3	1.0	2.4	1.3	1.8	3.0	0.3	1.0	2.5	2.4	21	1.3
Loyalty	22	0.3	0.9	1.3	1.2	0.7	0.8	2.5	1.5	2.3	2.1	1.3	55	1.3
Impulsive kindness	23	0.7	1.3	1.5	1.2	0.8	0.8	0.8	1.5	1.2	1.7	1.6	17	1.3
Common sense	24	0.5	0.1	-0.3	0.8	2.0	1.8	1.5	1.2	1.7	0.5	2.6	37	1.2
Action based on reason	25	0.6	-0.8	-0.9	1.4	3.0	2.7	1.5	0.9	0.8	1.2	2.6	45	1.2
Neatness, accuracy, attention to details	26	2.1	1.5	-1.0	1.4	2.7	1.0	0.1	1.9	1.1	-0.1	1.2	58	1.2
Bodily activity	27	1.2	0.9	1.1	-0.4	1.0	0.5	1.4	2.5	2.2	1.9	1.8	30a	1.2
Mental work on studies	28	0.5	0.5	1.1	2.3	2.3	2.8	2.3	0.7	1.1	0.2	2.7	28	1.1
Puremindedness	29	0.9	0.7	1.1	1.6	1.5	1.0	2.2	0.6	0.8	1.1	1.7	39	1.1
Corporate interest	30	-0.3	-1.0	-0.4	0.3	0.2	1.0	1.8	1.9	2.5	2.4	1.9	19	1.0
Excitability	31	-0.1	2.3	2.7	0.9	-0.2	0.8	1.6	1.1	1.0	2.7	0.5	43	1.0
Esthetic feeling	32	2.8	3.0	2.8	1.2	0.2	0.8	0.9	0.1	0.5	0.4	1.3	7	0.9
Imagination	33	0.8	1.8	2.8	1.3	0.3	0.5	0.8	0.4	0.4	1.3	0	6	0.8
Physical bravery	34	0	0	1.1	0.3	0.8	0.3	0.8	2.9	2.6	1.8	0.7	56	0.8
Tact	35	0.8	0.3	0.7	0	1.2	0.5	1.1	0.9	0	0.7	2.5	27	0.7
Interest in religious beliefs	36	0.3	-0.1	1.7	1.6	-0.1	1.8	2.8	-0.5	0.3	0.6	0.8	22	0.6
Skill in sports	37	-0.4	-1.6	0.2	-1.8	0.3	1.3	0.7	2.3	2.2	0	0.6	40	0.3
Absence of offensive self-esteem	38	0.3	0.8	0.3	0.4	0.8	-0.2	0.9	0.2	-0.5	0.7	1.2	14	0.3
Introversion	39	0.1	0.3	2.1	1.5	0.3	2.0	0.5	2.5	-1.0	0.1	-0.1	47	0.3
Absence of eagerness for admiration	40	0	-1.3	-0.5	-0.1	0.2	0.6	0.4	-1.7	-0.7	0	-0.6	11	-0.1
Conventionality	41	-0.8	-0.5	-1.0	-0.2	0.2	0.3	-0.5	0.7	0.4	-1.7	1.3	61	-0.2

[a] Op. cit., Table XLIX. Opposite p. 212.

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carefully recording the traits and characteristics shown by various individuals. Much of the work of Terman is concerned with making a record of the traits of the thousand children studied. A cumulative record of each child from the time he entered the first grade to the time he completes high school or college will be invaluable in discovering leadership qualities. Such a record should include activities out of school as well as those in school.

Leadership guidance is concerned not only with the selection of leaders but also to a large extent with the guidance in the training of leaders. Because of ignorance, stupidity, or bad character, some leaders are undesirable. These may, however, be directed so that they will be useful. A good or useful leader is one who influences others to do things that will result in improvement, in progress. Leadership is a force that must be guided and trained in order to be useful.

Here we are confronted by a troublesome dilemma. Shall we by indoctrination and by selection predetermine the direction which leadership shall take, or shall we allow freedom? Shall we seek to preserve and continue a certain form of government or social custom, or shall we run the risk of the disruption and the overthrow of customs and forms which have existed for centuries? Russia just now presents a striking example of the policy of indoctrination in her educational system. If her present policy continues, we shall in all probability see in less than a generation the rise of leaders who are anti-religious and anti-capitalistic to say the least. England and the United States are on the whole representative of the policy of greater freedom, or perhaps it would be nearer the truth to say that we have no policy at all; leaders largely grow with little conscious attempt either at giving them freedom or at indoctrination. No country and no educational system can escape some indoctrination of ideas and of ideals; it is inevitable. But no nation in the face of present conditions can afford to indoctrinate to the point of fixing the exact form of government, of preserving without change social customs and institutions. The only safe form of indoctrination would seem to be that which emphasizes ideals of service, of continual readjustment of social forms to meet new conditions, of large tolerance of varying, even conflicting, ideas. This, with definite and careful inculcation of the facts necessary for wise leadership and emphasis upon high ideals of character is, perhaps, all that we can do.

Leadership guidance is also concerned with the development of the ability to choose leaders wisely. No matter how inefficient or corrupt our city, state, or national government may be, it is the kind

of government that the citizens have chosen. We are responsible for the acts of our officers, for it is we that have chosen them. The choice of our leaders is a matter of prime concern to educators, and it is one that has received scant consideration in our schools. School life in the home room, in the classroom, in the field of athletics, and in students' clubs, as well as in student government, furnishes abundant opportunity for training in the ability to choose leaders. Some schools are beginning to utilize these opportunities by providing for the study and the discussion of the qualities necessary for the kinds of leaders chosen, by stressing the necessity for discrimination in the choice of officers, and by frequent practice in the election of leaders. It is true that school situations are not the same as those outside the school and that habits and ideals developed in the school do not necessarily carry over into life outside; nevertheless we do believe that such training may be made to result in great improvement if properly organized and administered. We need more schools where the importance of the whole problem of leadership selection and training is recognized and where definite experimentation will be carried on in providing opportunities for leadership traits to show themselves, for the making of a record of those leadership traits, and for actual practice in the selection of leaders.

A Balanced Program of Counseling

By W. C. REAVIS[6]

THE EXTENSION OF COMPULSORY EDUCATION and the growing interest of all classes of people in secondary education have created problems of educational administration which were seldom encountered a generation ago. At that time, the decision to send or not to send a child to high school was made by the family. The individual who presented himself for admission to a secondary school usually knew what he was seeking. Such matters as the opportunities offered by the secondary school, the use the individual would make of his opportunities, the sacrifice entailed by the family that the individual member might have the advantages provided were usually discussed in family council before an individual was permitted to enter upon his secondary-school career.

After admission the individual was primarily responsible for his own failure or success. Since he knew in advance what the school offered, earnestness of purpose was assumed. If he failed to meet

[6] University of Chicago.

the requirements of the school, he either tried again or voluntarily withdrew. It was taken for granted by the individual that the family sacrifice should not be in vain and that the school was not maintained for those who could not profit from the work which it provided.

At the present time, the situation described in the preceding paragraphs is quite different. In some states pupils are required to attend school until they are fourteen, sixteen, or eighteen years of age. In many communities public sentiment for secondary education is so strong that parents insist on their children remaining in school irrespective of the personal value received. As a result the secondary school has to undergo marked adjustments in an attempt to meet the needs of its changed personnel. Instead of a required curriculum designed to prepare chiefly for admission to college, many curriculums are now offered; instead of placing the responsibility for accomplishment solely on the pupil, the school undertakes to guide and direct the development of the capacities of the individual pupils.

The adjustment of pupils of high-school age to the complex environment in which they live is no simple matter. The individual's world today is vastly larger and more complex than it was a generation ago. Science and scientific methods have greatly extended the local environment of the youth everywhere. As a result he is virtually overwhelmed with experience which he cannot fully understand or clearly interpret without adult guidance.

The home no longer provides the guidance needed for the interpretation of many of the experiences encountered by the youth. The vocational specialization of parents and the marked changes in the modes of family life have restricted the influence of the home as an integrating institution. Unless the school assumes the function formerly discharged by the home, the pupil is apt to flounder for want of guidance and may fail to find himself with respect to his interests and capacities or may fail to take full advantage of the opportunities which the school and community provide for his growth and development.

The needs of the youth of high-school age for guidance are both many and varied. He is undergoing marked physical, mental, and social development. With inner changes taking place which at times baffle his understanding and outer experiences being thrust upon him which defy interpretation, the youth frequently becomes maladjusted with respect to family, school, and community. At the time in the individual's life when understanding is most needed, the youth frequently does not understand himself, nor is he understood by those on whom he would depend.

It should not be inferred that the secondary school must act *in*

loco parentis to the pupil. The school, however, must supplement the home in helping the pupil properly to integrate himself with respect to school and community life. The school cannot perform its new responsibility by applying tests which will eliminate all of its pupils save a given type. It must diagnose the needs of its pupils and supply the counseling and guidance which the pupils as individuals require.

The activities carried on in some secondary schools under the captions of counseling and guidance are general in character and not infrequently synonymous with education. No school functionary is charged with specific responsibility for counseling or guidance. Whether the pupils secure, under such conditions, services of an explicit character in the way of counseling or guidance not furnished in schools in general is difficult to ascertain. In other secondary schools the guidance activities are semi-general and the programs of counseling and guidance are developed in accordance with certain patterns, such as vocational guidance, social guidance, and personal guidance. In still other schools specific activities of guidance are provided, such as offering assistance in choosing curriculums, overcoming deficiencies, developing special talents, cultivating intellectual interests, and the like; imparting occupational information; counseling with respect to maladjustment; advising in regard to the choice of a college or vocation; assisting in obtaining employment and continuous supervision after employment.

The tendency of many secondary schools has been to develop programs of counseling and guidance more or less one-sided and skewed in the direction of some phase of guidance. This is shown by the extent to which the various functionaries were assigned to guidance duties in a sampling of 336 schools. In schools with enrollments under two hundred, the percentages providing guidance through the different functionaries are: principal, 64.9 per cent; dean of girls, 29.7 per cent; home-room advisers, 21.6 per cent; teachers, 21.6 per cent; dean of boys, 13.5 per cent; visiting teacher, 5.4 per cent; counselor, 2.7 per cent; and guidance committee, 2.7 per cent. In the large schools with enrollments in excess of one thousand a very different utilization of the guidance functionaries is discovered, the order and percentages of frequency being: home-room adviser, 88.2 per cent; dean of girls, 73.1 per cent; dean of boys, 46.2 per cent; principal, 29.0 per cent; counselors, 28.0 per cent; guidance committee, 20.4 per cent; visiting teacher, 19.4 per cent; and teachers, 7.5 per cent.[7] The data show that guidance activities are performed in the large majority of schools, both small and large,

[7] Koos, L. V., and Kefauver, G. N. *Guidance in Secondary Schools*, p. 516.

by administrative officers, the principal being the chief guidance officer in the small schools and the home-room adviser, dean of girls, and dean of boys in the large schools. A noticeable gain, however, in the use of the specialist in counseling—the counselor—is observed in the large schools when compared with the small schools (28 per cent to 2.7 per cent). The principal is largely responsible for the guidance activities in many of the schools with enrollments under two hundred. His relation to the guidance program is revealed by the following findings of Koos and Kefauver. The principal personally carries on the guidance work in approximately two-thirds of the schools (64.9 per cent); recommends pupils to college in nearly half of the schools (46.0 per cent); serves as adviser for boys in about one-third of the schools (29.7 per cent); develops home-room programs and makes studies to improve the basis of guidance in one-tenth of the schools (10.8 per cent); heads the guidance work in a general way and serves as a member of a group of advisers in approximately one-twelfth of the schools (8.1 per cent); acts as chairman of the guidance committee in about one-twentieth of the schools (5.4 per cent).[8]

In the schools with enrollments in excess of one thousand the relations of the principal to the guidance program vary from the practices found in the smaller schools chiefly in the following respects: first, in only about one-third of the schools (29.0 per cent) does the principal personally carry on guidance activities; second, in approximately two-thirds of the schools (68.8 per cent) he heads the work in a general way; third, in about one-sixth of the schools (17.2 per cent) he serves as adviser of boys and is responsible for developing the home-room program.

Analysis of the guidance activities of principals and their assistants in general made by French as a part of the Commonwealth Study of Teacher Training resulted in a master list of 180 specific activities which were considered to relate to guidance in secondary schools. An evaluation of these activities by counselors and by experts in education provides classified lists arranged in order of frequency of performance and in order of importance. The correlations between frequency of performance of activities and their relative importance as determined by counselors reveal certain strengths and weaknesses in the guidance activities carried on by the principal and his assistants in the secondary schools. In activities which involved advising with parents, counseling with individual pupils, and advising with pupils in groups, the correlations are high, being .767, .742, and .728, respectively. In activities pertaining to co-operation with community

[8] *Ibid.*, p. 580.

agencies and with teachers the correlations are medium, .404 and .316, but in activities involving the collecting and recording of data, and assisting in extra-curricular activities the correlations are low, .265 and .113.[9]

In the schools which develop their guidance programs around general administrative officers, guidance activities are often subordinated to administrative duties. Furthermore, in dealing both with individuals and with groups the administrative officer is sometimes inhibited in the performance of a guidance activity by the necessity of first performing an administrative activity. As a matter of fact administration may interfere with guidance and guidance may interfere with administration.

In many schools the home room is utilized as the unit of the guidance program. This is especially true of the larger secondary schools in which the home room may have previously existed as a unit for carrying on certain routine administrative activities. Approximately seven-eighths of the schools studied by Koos and Kefauver with enrollments in excess of 1,000 employed the home-room organization in the development of guidance programs. Since the same investigators found that home rooms were utilized in only one-fifth of the schools enrolling less than 200 pupils, the conclusion is warranted that the home-room organization is characteristic of the large secondary schools.

The home room, according to Fretwell, is the school home of a group of pupils whether the group be small or large. Usually the home room is required to care for from thirty to forty pupils, although in some school systems large assembly rooms make possible the organization of the school into "houses" or home rooms with from two hundred to four hundred members.[10]

The home-room plan of organization makes possible the segregation of pupils in groups under the leadership of a regular teacher whose responsibility for the home-room group is sponsoring rather than instructing. The plan enables the sponsor and pupils to establish co-operative relations as a means of realizing the purposes for which the type of organization exists. Whether the home-room group remains with the adviser for a semester, a term, or the period the group remains in the school does not matter greatly, providing that the purposes of the organization are clearly conceived.

Broadly speaking, the chief purpose of the home room is guidance, and the specific activities carried on therein should come largely under that category. To this end the home room should be organized

[9] French, Fannie. "An Analysis of Activities Involved in Pupil Guidance," 1926. pp. 30–41. Master's thesis on file in the library of the University of Chicago.

[10] Fretwell, E. K. *Extra-Curricular Activities in Secondary Schools*, p. 21.

as a guidance laboratory and not as another classroom. The atmosphere of the room should be democratic and should be conducive to self-discovery and self-revelation. To serve the members of the home-room group the adviser must know them both as individuals and as members of a primary group.

The mere organization of a school for guidance purposes into home-room groups does not guarantee that guidance activities will be better performed by home-room advisers than by administrative officers. Unless home-room advisers are trained for guidance work their activities will likely resemble the activities of the teacher or the minor administrative officer. It is difficult to indicate to what extent training has been provided for home-room advisers in schools that have adopted the home-room plan as a guidance program. Data from the sampling of 336 schools show that different guidance activities in the home rooms have received different degrees of emphasis. In 75 per cent of the schools the advisers provide guidance through the direction of special home-room activities; in 60 per cent, through discipline; in 66 per cent, through oversight of social conduct; in 62 per cent, through conferences regarding the quality of work; in 62 per cent, through curriculum advice; and in 29 per cent, through advice regarding vocations. The findings do not indicate the breadth of guidance service to be desired, although the guidance activities carried on compare favorably with those of administrative officers in schools in which the home-room organization is not employed.[11]

Certain schools have introduced class directors, class guides, class supervisors, and class principals to organize and direct the work of the home-room advisers and to unify the guidance activities for the different class groups. These directors supply a type of special service which widens the scope and gives balance to the guidance activities.

Whether the emphasis is placed on the vocational, educational, or personal aspects of guidance, certain schools have conceived of the activities of counseling and guidance as involving knowledge and technical skill beyond that possessed by the teacher and general administrative officer. Such schools regard guidance as an act of skill, which requires for its successful execution training of a technical character. Accordingly in these schools, guidance becomes the responsibility of the specialist, who may be developed from the staff through special training or be added to the staff for the specific purpose.

The development of a satisfactory school program of guidance through special counselors requires that the counselors become members of the school's staff and that their duties be defined and their

[11] Koos and Kefauver, *op. cit.*, p. 546.

relations to the staff members be established clearly. The use of the specialist in guidance does not eliminate certain guidance responsibilities of teachers and administrative officers, but merely requires a division of responsibility for the activities each can most successfully perform. If the time of the specialist is used in the performance of duties that belong properly to the generalist or the generalist undertakes to perform the duties requiring special training and skill, the guidance program will fail because of maladministration.

The development of the guidance program around the counselor makes possible a type of guidance which depends chiefly on the administrative officers plus the services of outside specialists available on call. The success of this plan, however, will depend on the limitations imposed; that is, if the counselor is overloaded with pupils or is expected to divert energy to administrative work, the results accomplished may vary only slightly from those obtained through other plans.

Objective data for schools which emphasize the home-room adviser and the special counselor plans show that the advisers perform administrative duties related to guidance, such as discipline, oversight of social conduct, and counseling concerning the quality of work to a greater extent than the counselors.[12] On the contrary the counselors exceed the advisers in the frequency of performance of the more specialized types of guidance, such as curriculum guidance, vocational guidance, placement advisement, and follow-up service. While the differences in the distribution of time to the different types of duties indicated are not large, they are, nevertheless, significant. As a result it can be concluded that the adoption of the special counselor plan increases the performance of the specialized guidance activities by counselors and decreases those that are partly administrative in character.

The guidance bureau or department is a development of the large elementary-school and the large secondary-school system. Certain guidance activities, such as occupational research, follow-up studies, and vocational guidance in connection with placement can be carried on in a central office apart from the schools. A staff of trained workers can be maintained who not only perform the office duties incident to guidance but who also visit schools on call and engage in group instruction, group counseling, and individual counseling. They may also give advice to teachers and administrative officers regarding guidance activities of an unspecialized sort that can be carried on in the schools by persons not specifically trained for guidance work.

The director of the guidance bureau is usually responsible to an

[12] Koos and Kefauver, *op. cit.*, p. 563.

assistant superintendent of schools or to the superintendent himself. The director is expected to formulate the guidance policy of the school system subject to the approval of his superior officers; to organize the bureau or department as a clearing house for problems of guidance, placement, and follow-up; and to provide assistants who can render expert counseling service to schools desiring such aid.

The activities which can be carried on in the schools by the guidance assistants are: group interviewing of pupils in entering classes, individual interviewing of members of the graduating class, individual interviewing of pupils as needs arise, instructing classes in occupations, assisting graduates or pupils leaving school to secure employment, keeping records of pupils interviewed, visiting employers to enlist their interests and to secure knowledge of the conditions under which employed pupils work, conducting community surveys to ascertain environmental conditions and chances for employment, and carrying on follow-up studies of withdrawals and graduates.

As a result the guidance bureau is not expected to provide all the guidance service in an individual school. The principal through his teachers and administrative assistants should aid pupils in the choice of courses or subjects, in the selection of extra-curricular activities, in the development of intellectual interests, in social adjustments, in overcoming difficulties in classroom work, and the like. The guidance bureau should provide the specialized service and should aid the principal in the organization of the school's guidance program and in the integration of its various guidance activities.

In large cities the staff of the guidance bureau is usually inadequate to provide all the service needed in all of the schools. Some schools will be satisfied with nominal services while others will desire all the service possible for the bureau to render. As a result the guidance programs in individual schools often vary greatly in effectiveness. This condition should be charged largely to the administrators of the schools rather than to the central bureau. In individual secondary schools in which a guidance department is a structural part of the administrative organization, functional responsibility may be delegated to the director for organizing and supervising the general guidance duties of the members of the school staff as well as for carrying on the specialized guidance activities. Although a number of guidance duties may restrict the activities of the guidance department in the individual school as compared with the activities of a guidance bureau for a school system, the possibility of co-ordinating the guidance activities in the individual school through a school program is increased.

The development of the central bureau of guidance in large

schools makes possible occupational research and the utilization of the findings in vocational guidance and placement to an extent scarcely possible under the other types of programs. However, the guidance activities that belong in the individual schools are likely to be neglected unless complementary guidance programs are developed by the principals of the schools or are projected by the guidance bureau. Failure of the central bureau to overcome administrative difficulties makes the guidance program weak and does not permit complete functioning in the individual schools.

A balanced program of guidance requires the differentiation of guidance activities and the assignment of responsibility for performance to the functionaries of the school properly qualified to carry on the activities assigned. This requires that the administrative officers, directors of guidance, special counselors, home-room advisers, and teachers take a part in carrying on guidance functions. The projection of the program requires a careful analysis of guidance activities and the differentiation of duties to be performed in accordance with the functions of the officers to whom duties are assigned.

The administrative officers, principal, vice-principal, deans, director of extra-curricular activities, and department heads, should accept executive responsibility. They must provide the program of studies, the materials of instruction, the record system; they must admit pupils to school, classify the pupils, prepare the school schedule, arrange the program of pupil activities, deal with cases of discipline, interview parents, administer attendance, and record and evaluate credits; and must organize, direct, and supervise the functioning of the different members of the school staff. Many of the activities of the administrative officers affect guidance only indirectly, yet unless the relation of administrative activities to guidance is clearly conceived the guidance activities of other workers may be hampered and perhaps completely inhibited.

The director of guidance should project the guidance program subject to the approval of the school head. He should outline the guidance activities to be performed by the counselors, home-room advisers, and teachers, and he should provide the training needed to carry on the guidance program. He should interpret the guidance program to the school and community, carry on research basic to guidance, and perform guidance activities which require types of skill not possessed by the other members of the staff.

The counselors should teach the courses in occupations, aid the pupils in the selection of courses, give group guidance to all the pupils, and counsel with individual pupils in need of adjustment. They may also serve as regular teachers part of the time.

The home-room advisers should be responsible for the orientation of their pupils, the maintenance of pupil morale, and the development of a wholesome attitude toward the school as a civic enterprise. The advisers should keep the records of the pupils, give advice with respect to extra-curricular and social activities, and act as intermediaries with administrative and guidance officers and parents.

The teacher as a guidance officer must necessarily play a large part in a guidance program. His interest in the welfare of the pupil is indispensable if guidance is to bear fruit. He should sense the symptoms of maladjustment in a pupil in the incipient stages, bring the guidance organization to bear on the case, contribute to the diagnosis of the causes of maladjustment, and assist in the application of the corrective or remedial measures advised. Furthermore, the teacher may give specific guidance to pupils in the pursuit of intellectual interests, in the development of proper habits of study, and in the development of the proper conception of the processes of education and the opportunities for education provided through the school.

The foregoing analysis of the activities of guidance promises a balanced program of counseling and guidance for secondary schools. The neglect of any of the phases of guidance, either through failure to give them proper emphasis or through failure to assign them to the proper guidance officer for performance, may contribute to maladjustment and failure on the part of pupils. The development of a balanced program should therefore be encouraged in preference to the development of programs which emphasize only certain aspects of counseling and guidance.

The Taxpayer and Higher Education in Ohio

By HARVEY WALKER[1]

TAXPAYERS ON EVERY HAND are demanding a reduction in the cost of government. To the extent that governmental expenditures are wasteful or extravagant or excessive, in view of the reduction in prices and real wages in non-governmental enterprise, they may be justified. But bonds and interest must still be paid in dollars' worth much more than when they were issued. Expenditures for supplies, materials, and equipment may be reduced in proportion to the reduction in commodity prices. To the extent that public salaries exceed the rate paid for similar personal services in private industry they too may be reduced, but great care must be taken in making such reductions that they preserve an equitable relation between those performing comparable duties in the carrying on of the different functions of government.

While education has not, as yet, come in for a large share of this public criticism, the time is not far distant when it will do so, unless there is an early change in general economic conditions. When taxpayers find that there is a limit to possible reduction of cost in the performance of the elemental governmental functions of the protection of life and property, of the care of the antisocial and unfortunates, and of the regulation of business, they will turn to the sacred citadel of American democracy for relief. School expenditures account for approximately half of the cost of local government in Ohio. The proportion of state appropriations used for this purpose in 1929–30 was approximately 30 per cent. Unless educators proceed to set their own house in order, the task will be done for them by those less sympathetic and informed.

It is not my purpose to deal with the situation as it pertains to elementary schools. Though state participation in this problem is as yet negligible, being confined to a small equalization subsidy, the probability that the state will soon enter this field on a larger scale in the near future is great. In Ohio where there are forty-three institutions of higher education, six of them deriving all or a large part of their incomes from state tax sources, we have a peculiarly

[1] Ohio State University.

significant problem to solve in this field. Some of the questions which we must face and answer are: To what extent is higher education a proper function of government? What proportion of the social income may properly be spent upon higher education? To whom should be given the advantages of higher education? How far should the state of Ohio go in supporting public institutions of collegiate grade Is economy and efficiency of expenditures for that purpose promoted best by a policy of centralization or decentralization? How can the programs and policies of the existing state institutions of higher education best be co-ordinated? How may competition among these institutions for legislative appropriations be avoided? Is a division of labor among these institutions dictated by financial considerations or sound educational policy? What should be the relationship of the public institutions to the private institutions? How may the facilities of the state for higher education, public and private, be best utilized for the public welfare? These questions will be discussed, hypotheses suggested, and lines of research delineated. It is hoped that progress may be made rapidly toward acceptable answers.

Fundamental Educational Co-ordination

By WILLIAM OXLEY THOMPSON[2]

THIS PAPER DOES NOT DEAL with the question of co-ordination as applied exclusively to state-supported schools, although, naturally, the public schools and state-supported colleges constitute the greatest single factor. The other Ohio colleges, however, render such important services as to make impossible omission from consideration.

The subject of co-ordination is sharper today because of the economic depression and the patchwork of suggestions already adopted, pending the development of a real cure for these unfortunate conditions. Meantime we make a sorry demonstration of our mending ability, likewise showing our inability to grasp a serious situation, analyze it, and undertake remedial measures. So far, no genuine remedies have been presented either by the state or by the Federal Government. Poverty, charity, public expenditure of funds have now become political issues, so that men are quite liable to take office on causes that will prove empty bubbles after election.

The immediate cry is to reduce wages, limit budgets, spend money on public improvements, issues bonds to pay for them, and pass other measures to increase the future tax rate. As Ohio affairs

[2] President emeritus, Ohio State University.

are now, public support of education is distributed between the locality and the state, with some limited provision for aid in agricultural extension from the county commissioners.

The legislation authorizing public support of education proceeds, of course, from the state. In that sense we have a state system of education. The method of taxation makes it impossible for some school districts to provide funds sufficient to operate the schools as legally required. In order to enable certain districts to meet requirements biennial state-aid appropriations have been made.

The present decline in real-estate and farm values has reduced the tax base for the counties at the same time that the state sources of revenue, business, and incomes have also been lowered, increasing the need for aid as the possibility for the continuance decreases. There is a limit, therefore, to which we may go in urging additional support for public education. The danger is that there will be a tendency to increase the costs of education to the student by raising fees. The colleges which are not state supported are facing similar problems of reduction in income since their properties have depreciated in value.

A problem arising out of the financial difficuties is how to maintain educational programs at a level where elementary- and high-school pupils will still have ample background for higher education. It is a fact that childhood is the time when certain types of education are possible and effective. Older people cannot be taken back except at some cost and loss. This will place upon the children deprived of the usual facilities an additional burden in bringing themselves up to a level attained by those slightly older or by a younger generation.

This brings vividly to mind the necessity of careful revision of courses of study from the kindergarten to the university with a definite aim of so co-ordinating these educational programs as to insure the greatest possible efficiency; this is primarily a teachers' problem. Sometimes under pressure of necessity humanity has made its most noble, intellectual, and spiritual achievements. Teachers who have depended excessively on physical equipment will either fail or they will develop new and effective means of obtaining results comparable with those secured under other conditions.

Educated young people have added to social efficiency; we cannot put into a highly technical, sensitive social organization a generation of socially defective people, without simultaneously seriously reducing and lowering efficiency and the level of our civic living.

It seems pertinent to suggest that schools attempt to evaluate the permanency of their theories in regard to adversity, for if our education is not sufficiently socialized and sufficiently strong to enable

facing the issues of the day with greater efficiency than earlier generations, our boasting is vain. Educators need to test the social and abiding values of formal education, to undertake an intellectual survey, and to review and to study recent educational literature.

Social Economy through Co-ordination

By CHARLES H. JUDD[3]

It is not always recognized by college authorities that the proper preparation of students for admission to the freshman class is in no small measure dependent upon the work of the elementary school. Unless the student who is applying for admission to college has been well trained in the fundamental intellectual arts, especially the art of reading, he may pass through the secondary school with acceptable grades, but he will be seriously handicapped in his effort to carry on the work of the college courses. Not only so, but the time consumed in completing rudimentary or elementary education is a matter of major importance in determining the academic careers of students.

As a result of the peculiar organization of American education, the elementary school of this country is much less serviceable as a preparation for admission to advanced study than are the institutions which supply the early stages of education to European pupils who are ultimately to be trained in the university. If a European or English boy is destined, by virtue of his probable entrance upon a profession, to go to the university, his preparation begins at what we know as the fourth grade. In the German Gymnasium or the French *lycée* or the English secondary school, there is no such delay in admitting the pupil to courses which are above the rudimentary level as there is in the American system. The United States is the only country in which pupils who are planning to enter the university are not given training in foreign languages and higher mathematics before the end of their fourteenth year.

The reason why the American elementary school is detached from higher education is that it was organized in the middle of the last century at the time when the common school was of much greater interest to educational administrators than was the secondary school or the college. Horace Mann and Calvin Stowe and Henry Barnard were concerned with the better organization of elementary education, and they patterned the new elementary school of eight grades, which they set up, after the model of the German *Volksschule*.

[3] University of Chicago.

They apparently had no interest whatsoever in the German organization of secondary education or in the relation of the eight-year elementary school to the secondary school. When these educational reformers brought the *Volksschule* to this country, they made it the basal institution of our whole educational system. Perhaps it is more just to say that the American people insisted that all who completed the work of the elementary school should have the opportunities of advancing into the upper schools. Whichever method of expression one adopts, the major fact is that in the United States the completion of the elementary school is required of everyone who goes on to higher institutions, and, because of the rudimentary character of our elementary school, it has been true in the past that no pupil, whatever his educational outlook, was admitted to advanced subjects until his fourteenth year.

About two decades ago a fundamental reform in the American educational system began. The elementary school, because of improved conditions of instruction and because of the better training of teachers, succeeded in completing the training of pupils in the rudimentary subjects at the end of the sixth grade; that is, when the pupils were twelve years of age. Abundant evidence can be supplied to show that two years have been saved in the elementary schools of this country as a result of these improved conditions. Pupils, however, find that these two years are not utilized in the junior high school as are corresponding years in the European system. The American educational system has not yet succeeded in making those adjustments which make possible earlier entrance on a genuine secondary program or an earlier completion of the secondary school and college. American pupils who have completed elementary education in their twelfth year go to secondary schools which absorb all of the time saved in the elementary school.

Leaving the matter of elementary and secondary education for the moment, let us turn to a consideration of the relation between the upper years of the high school and the first two years of college. It has long been recognized that most of the work in American colleges during the first two years is far more closely related to the secondary school than it is to the advanced work which is carried on in the last two years of the college and in the graduate school. The appearance of the junior college in various parts of the country has tended to emphasize the relationship between the freshman and sophomore years of college and the courses given to pupils in the ordinary secondary school. In California, where the junior college has developed more extensively than in any other state, the junior college is legally recognized as a department of the secondary school. Many

evidences appear in our own section of the country to show that both the junior college and the senior college would be greatly advantaged by a more general recognition of the relation of the first two years of college to the secondary school.

In the early part of this century there was a group of administrators who attempted to bring about a reconstruction of the educational system in the interests of what they called "economy of time." The use of the term "economy of time" was unfortunate for the movement. The plea for economy of time failed to bring about any radical changes in the American educational system. Economy of time was interpreted to mean a withdrawal of privileges from students. It was thought in many quarters that economy of time would mean earlier graduation and, consequently, curtailment of educational privileges. If the proponents of this movement could have adopted some phrase like earlier admission to advanced courses, it is not unlikely that they would have been more successful. They were advocating a much-to-be-desired change and one that must ultimately be made.

In spite of the obvious advantages of a more economical elementary education, and in spite of the fact that junior high schools and junior colleges are beginning to appear in impressive numbers, the American school system has remained practically unable to accelerate admission to higher education at an early stage. The result is that we are now in very great confusion with regard to the proper use of secondary-school time, and we are still carrying on in most institutions the first two years of college work in close relation with advanced courses rather than in relation with the secondary school.

There is another feature of the general educational system in this country which must be kept in mind if a readjustment is to be achieved. The secondary schools of the country serve a double purpose. For many of the pupils in these schools the courses are preparatory to more advanced courses to be taken in the college. For other pupils the high-school courses are terminal courses. As a result of carrying a double program in the high school, there has been a great extension of the secondary-school curriculum. The Commissioner of Education reports that something like two hundred fifty different subjects are now to be found in the programs of American secondary schools. A recent study which was made of the offerings of American colleges indicates that a similar expansion has been going on in those institutions. In many cases the expansion in colleges has affected the program of the freshman and sophomore years very much as it has affected the program of the secondary schools. If it were possible to organize the educational system in such a way as to define somewhat more clearly the program of general education and the program of

terminal courses at different levels, a readjustment could be made in the school program of the American educational system that would be both educationally and financially economical.

Suppose, for example, that we accept tentatively the definition of the secondary school and the junior college as institutions designed to complete the general education of pupils. Suppose we recognize at the same time that for certain pupils general education must be somewhat more limited than it is for those who are going to go on to college. We should then begin organizing the curriculum of the freshman year of the high school in such a way as to include those general topics which are essential to the training of all citizens. We should not organize the first year of the secondary school, as we now do, with algebra, ancient history, and certain other subjects which are not absolutely essential to the pupils who are going to leave the secondary school at an early stage. General education would dictate a program of courses for Freshmen in certain of the larger principles of social organization. In fact, I am not at all clear that we ought not to think of these courses in the organization of society as appropriate even below the first secondary-school year.

What has been suggested tentatively in the foregoing paragraph will indicate the desirability of a reconsideration of the whole problem of general education. Such a reconsideration would, I am sure, result in a transplanting of some of the orientation courses, which are now being offered in colleges, to the secondary school. There would be a much more general effort than there is at the present time to make a coherent curriculum of general courses.

The coherent curriculum here advocated for general education need not occupy the whole time of students at any level of secondary or collegiate education. There would be provided, therefore, a certain number of courses designed for pupils who find it necessary to terminate their education before going to college or before graduation from college. In other words, general education could be paralleled by courses providing what is commonly called "terminal education." Terminal education could thus be provided from the very beginning of the secondary-school curriculum.

The interpretation of the term "terminal" would be different in the cases of different types of students. Those students who plan to go on to college and ultimately to enter the professions could take as their terminal courses what we now call "preparatory courses." In other words, these preparatory courses would not be terminal in the sense that they would be the last courses pursued by these pupils, but they would be terminal in the same vocational sense that terminal courses in the practical arts would serve to prepare some pupils for

entrance upon industrial activities. Terminal ought not to mean in any case a final completion of all educational endeavors on the part of the student. Terminal ought to mean merely that the school is giving this course for the purpose of specific preparation of the pupil for a certain particular outlet. Perhaps the word "terminal" should be dropped entirely in favor of such a word as "vocational." If the term "vocational" is adopted, it should be kept constantly in mind that college preparation is vocational.

The type of reorganization here suggested is far-reaching and would require the co-operation of many school systems and many institutions. So long as there is a distinct break between the secondary school and the college, and so long as the college insists on concerning itself with the large amount of secondary-school work which is now offered in freshman and sophomore years, the general readjustment of the school program is going to be difficult. If, on the other hand, co-operation could be secured so that the intellectual leaders of the various states would undertake a recanvassing of the whole program of secondary and collegiate education and would take advantage of the economy which has already been effected in the elementary school, it would be possible to arrange a program much better suited to modern conditions than is the present program of secondary and collegiate education which has grown up through accretion.

John Dewey made a statement at a regional meeting of the White House Conference not long ago, criticizing American education by saying that whenever we find any unsatisfactory condition in our educational system we add something. We do not undertake a fundamental reconstruction and reorganization. I think Mr. Dewey's comment is entirely justified by the facts. We have retained curriculums in the secondary schools and colleges which grew up at a time when there was little available material for instruction, and we have gradually added new courses, holding tenaciously to the programs prepared for earlier decades. Has not the time come when we can make a careful but fundamental study of the possibilities of a complete reconstruction of this program? I make bold to recommend such a fundamental reconstruction, first of all, on the ground that it will supply better education. I am firmly convinced that, in addition to giving better education to the pupils, such a reorganized educational system will be financially more economical than is our present collection of miscellaneous courses. Economy of human effort and time is far more important, in my judgment, than economy on the financial side, but it is clear, I take it, to every observer that demands for economy in American education are so insistent that school people will have to give heed to these demands.

Fitting Pupils to Understand

By W. S. SCHLAUCH[1]

THE NEED FOR UNDERSTANDING our economic and social structure was never as great as it is at present. We are confronted, throughout the Western World, with the spectacle of millions of unemployed and of starving people, and of overflowing granaries and overstocked markets. According to governmental reports Germany has 6,100,000 unemployed workers, and Great Britain, 2,800,000. The unemployed in the United States are not officially listed, but they are variously estimated from 7,000,000 to 10,000,000. France has 293,000 receiving relief, and the number is increasing by leaps and bounds.

With machines and technological knowledge capable of supplying all reasonable human wants for the population now in the world, we are faced with the problems of wasteful luxury on the part of a few and of millions eager to work who are deprived of the opportunity. Evidently our economic organization is not perfect, and, if it is to be remedied in an orderly and effective way, it is absolutely essential that at least a leavening portion of our citizenship have an acquaintance with scientific method and have some insight into our social and economic structure. Action without an intelligent plan is useless and in most cases destructive. A planned economic society must soon emerge in the Western World to take the place of the planless system now prevailing, which leads to periodic breakdowns.

The work of the high schools and colleges of our country was never so desperately needed as now; and their work must not only be sustained, but enlarged if we would save ourselves. Any interference with the process of acquainting the average citizen with the nature of the economic and social environment in which he lives would be not only shortsighted but fatal. Bearing this in mind, I shall indicate, briefly, the economic structure of the modern world in contrast with that of ancient societies and, from the brief survey, shall draw some conclusions about the kind of knowledge and understanding of our social and economic structure a high-school graduate should have.

We think of the modern world as a machine civilization. The

[1] New York University.

vast multiplication of man's power by harnessing the forces of nature through the use of the machine has made it possible to feed, clothe, and house the great masses of people living in the world today. The ancient and medieval periods of history, on the other hand, were alike in being hand-tool ages.

If the Martians had sent an expedition to the earth in the time of the pyramids of Egypt, they would have found a primitive civilization indeed. The work of the world was performed by hand, with simple tools, and by slaves, who worked so that civilization might be carried on by the favored few who were removed from the necessity for toil. For the Pharaoh and the priests the cry of the slaves was "mellowed by distance into monotonous music." Our Martian scientists would probably have returned to their interplanetary projectile car shaking their heads and saying: "A real civilization is not possible with such primitive tools and so general an ignorance of science. We must send an expedition to Earth again after a few thousand years."

The return expedition, landing in England at any time between 1200 and 1600 A.D., would have found men still using hand looms, mattocks, hand tools, and man power. The Martians would doubtless have shaken their heads again at the long delay in the coming of science and invention and in the harnessing of nature by machinery.

The change began about 1738. In that year Kay's flying shuttle was perfected, and soon after this Hargreaves and Arkwright perfected the spinning machinery; in 1784 Cartwright invented the power loom. Water power was progressively harnessed, and steam power and transportation were developed between 1750 and 1830. The change initiated has been called the industrial revolution because industry as we know it became possible with the advent of the machine. The nineteenth and twentieth centuries saw the stream of scientific knowledge with its machine by-products widen and deepen into a mighty river. The myriads of electrical inventions, such as the telephone, the telegraph, the wireless, and television, are continuations of this movement. Internal explosion engines now enable us to fly through the air or speed along the surface of the earth at rates beyond the imagination of the ancient or medieval man.

The invention of power machinery brought with it the use of many machines run by the same power service. This meant the establishment of large factories with expensive equipment. So the handloom worker was undersold and driven to the factory to operate tools owned by capitalists. He worked in such surroundings and for such remuneration as the capitalists dictated. A study of the history

of the industrial revolution in England reveals the terrible exploitation of the worker which existed in the transition period before the factory legislation of the nineteenth century brought him some relief. The conflict of interests which was then brought into modern society can be understood by a glance at the graph in Figure 1 which represents a typical factory profit and loss statement. Manufacturing expenses take care of indirect labor, light, heat, power, rent, insurance, repairs, and depreciation; operating expenses include managerial and office expenses and selling expenses. The entire rectangle represents the income from net sales and "other income," such as discounts earned and interest income. Since net sales and other income must cover all expense and overhead items and must yield the profit, the more the direct labor cost and the salaries of office employees and salesmen's commissions are contracted, the wider will be the profit part of the rectangle.

Wages always lag behind prices in a rising market, for the employing corporation will not grant increases while there is a reservoir

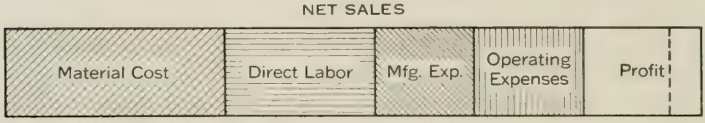

Fig. 1. Profit and loss.

of unemployed labor from which to draw. Even when the unemployed slack is taken up, the pressure of unions and the threat of strikes are necessary to secure advances. In a period of decline, wages lag behind prices again, because wage-contract periods usually carry the old rates part way into the decline phase. The temptation to take more in the shape of profits than is necessary to give the investor a fair return and provide thus for new plants and equipment is exceedingly strong.

In every period of rising prices the greater portion of the population is employed in an industrial system; therefore, the cost of living will rise faster than wages, the exhaustion of the purchasing power of the masses will slow up the demand for goods in the domestic market, and a period of decline and depression will inevitably follow.

From the foregoing it can be seen plainly why England became the great imperial power of the world. The industrial revolution occurred first in England, and the purchasing power of the wage workers was so low that it was inadequate to absorb the flood of goods turned out by the factories. The need for foreign markets to absorb the surplus arose, and England built up her empire trying

to make it an exclusive area for exploitation. Her navigation acts, her laws forbidding manufacturers in the American colonies, and her oppressive trade regulations were all designed to enable her bourgeois enterprisers to find a market for their surplus goods. These acts cost her her thirteen American colonies.

With the spread of invention and the resulting development of industry, the capitalist class acquired increasing political power. We may describe the modern world, at the opening of the twentieth century, as an industrial-machine civilization. The major motive of this civilization was and is acquisition of wealth, with the capitalist-enterpriser class holding the substance of economic and political power and absorbing a large share of the product of industry, with the laboring class dependent on such wages as the owning class is willing to pay, and with the remnant of the European feudal aristocracy holding the empty places of former power.

England's far-flung empire had meanwhile been copied on a smaller scale by the French North African empire, the German East African and Pacific possessions, the Italian Tripolitan and Abyssinian holdings, the Dutch East Indian empire, the Belgian Congo Free State, with its horrible oppression of the native population, and the Caribbean and Philippine protectorates of the United States.

Each of these great powers was and is determined to keep its imperial holdings for exclusive exploitation and marketing. So we have the spectacle of the vast armies and navies of 1914 to 1918 and the military and naval burdens which have developed since.

Most articles in common use today are machine-made and are produced in large numbers with the process minutely subdivided and standardized. This mass production cuts down the cost of production per unit and increases the profits for the producer. The tempo of work in a modern industrial plant is very fast. Anyone who has visited an automobile assembling plant and watched the assembling of a car must realize that no time is allowed for lost motion. Mass production carries with it the tendency to create giant corporations and thus unite all the processes of an industry under one ownership; this eliminates intercompany profits from the cost of the product.

This type of industrial organization with mass production and increasing machine efficiency calls loudly for the application of economic knowledge, statistical surveys, and a central regulating agency of some kind to guarantee that the purchasing power of the mass of the people may be maintained, so that the market will continue to absorb the goods produced, and that the trend of the demand for the various kinds of goods may be estimated, so that there shall not be

an excess of one kind of goods, produced at a loss, and a deficit of another kind of goods.

Every evolving organism develops a central regulating agency corresponding to the brain and nervous system of an animal. The social organism is no exception to the rule. Our regulating agency is, however, almost purely political, and only recently has the doctrine of laissez faire been partly abandoned, such bodies as the Interstate Commerce Commission and the various state public-service commissions making a beginning in this direction.

The lack of balance and adjustment in distributing the proceeds of industry and in adjusting production to demand results in the business cycle and in insecurity for workers as well as small investors.

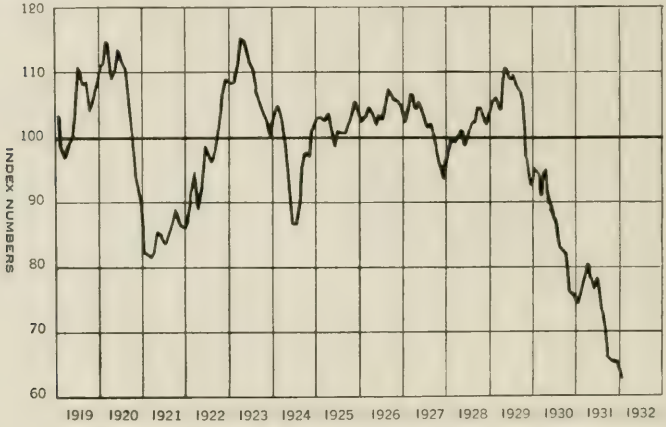

Fig. 2. The *Annalist* index of business activity.

The fact that business swings through the four phases of depression, recovery, prosperity, and decline or collapse, repeating these phases over and over again is well known to all economists. Anyone who has read such books as *Economics of Business Cycles* by Adams or Mitchell's *Business Cycles* knows that such cycles exist, that they are inherent in our economic structure, and that the phenomena involved are complex and under present conditions almost impossible to control.

Various attempts to study the factors involved and to predict the coming change in the business cycle have been made. By reducing various barometers of business activity, such as check transactions, freight-car loadings, cotton consumption, automobile production, unfilled steel orders, and the like, to index numbers and by studying their trends by the method of least squares, it is possible to estimate the norm for any given year and to express these index numbers as a

percentage of the norm. By properly combining these index numbers we get a composite picture of the movement of business as a whole.

The graph of the index of business activity published by the *New York Times Annalist* is here reproduced as Figure 2.[2] It is a weighted-average index, composed of ten separate indexes of activity in the most important lines of production and distribution. In interpreting the graph of the index of business activity, one must know that a volume of activity which would yield an index of 100 in 1919 would yield an index less than 100 in 1929. The line marked 100 on the graph represents the estimate of the statistician of what is normal for the time indicated.

By studying the correlation of the movements of the various barometers of business conditions with one another and with the general index of business itself, various economic services try to forecast the movements of these factors and to warn business men and investors of coming phases in the cycle. This problem is being attacked with mathematical statistics, and an encouraging beginning has been made. It is evident that, as business in general rises and falls, the market for well-established consumers' goods will rise and fall, necessities experiencing a lesser range of variation than luxuries.

By reducing his output when warned of an approaching decline, a producer can of course avoid overstocking with goods produced at relatively high cost in the face of a falling price level. He will decrease losses and multiply gains by thus adjusting his business to the changing business cycle.

When industry is booming in a prosperity phase of the business cycle, dividends are high and increase rapidly with rising profits. Property or ownership incomes rise much more rapidly than service incomes. In a period of depression the worker usually exhausts all his savings before he secures work again. The investors, although they suffer a decline of income, do not usually deplete their invested values. They usually know enough to sell stocks of doubtful value and invest in bonds or government securities until such time as stocks reach bottom prices when they reinvest and make a profit on the rise due to business recovery. If one knows enough about the movement of stock and bond prices in the business cycle, he can with little risk double his invested capital in the course of two complete cycles by taking advantage of the swing of these prices. Wealth thus tends to accumulate more and more in the hands of those who have large accumulations. The graph of the distribution of wealth in the United States, submitted as Figure 3, known as a Lorenz curve, was constructed by using the available data on the subject. With the excep-

[2] The *Annalist* (New York Times Company), XXXIX (January 15, 1932), p. 87.

tion of assessment rolls and income-tax returns there is little definite information of the kind available; therefore the graph must be understood as representing the best estimate available, not the exact facts. The graph shows how far we have sagged away from equality of distribution of this world's goods. This inequality is increasing, for the dotted line shows the approximate distribution of wealth in the middle of the nineteenth century.

The rivalry in the exploitation of foreign markets and the attempts to protect investments made abroad have been fruitful causes of wars during the capitalistic era. The United States until about 1898 was busy developing its natural resources and creating an expanding home

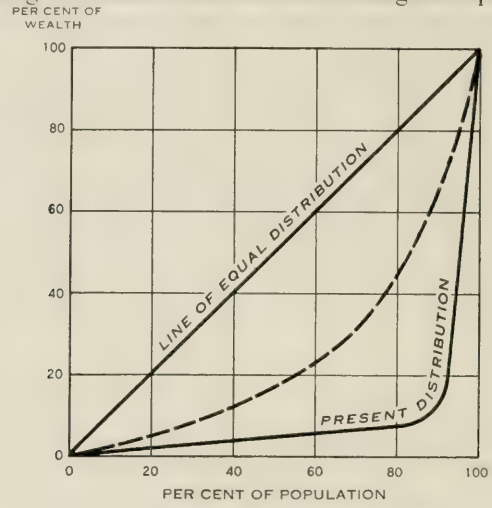

Fig. 3. A Lorenz curve showing the distribution of wealth in the United States.

market. Exploitation of the workers was not so acute as in foreign countries because free land gave an outlet from oppressive conditions, and new wealth was rapidly created by extensive farming as the West was settled. The home market absorbed our expanding manufacturers until about that time. The last free land was taken up in the United States when Oklahoma was opened to settlement about 1890. From that time, the rapid development of machine methods, the increasing skill in production, and a relatively falling purchasing power in the home market led the United States into foreign-market movements. Thus our protectorate over the Caribbean countries and our retention of the Philippines followed the Spanish-American War. We have intervened in Haiti and Nicaragua, and we have insisted

on the open-door policy in China. Evidently Japan has determined to establish an exclusive area for exploitation in Manchuria, and perhaps in China proper. Our Secretary of State has given notice that the United States will not recognize any changes of sovereignty in those territories. Thus the necessity for foreign markets and outlets inherent in the industrial system leads to conflict of economic interests and frequently to war. The French and Italian imperial systems threaten an outbreak over rival claims to the hinterland of Tripoli. The world is full of the danger of another conflict, and meanwhile our inventiveness has increased the destructiveness of the weapons of warfare to such an extent that if another war overtakes us it will prove so destructive that the last world conflict will seem mild in comparison. Morality and social conscience lag so far behind the achievements of science that the very existence of our civilization is threatened. With airplanes which are capable of carrying seventy men, explosives powerful enough to shatter a fortress, and poison gas which will wipe out a city, the destruction that must ensue in any large war is enough to stagger the imagination; yet at the opening of 1932 we find the nations more heavily armed than in 1914. Greed—the economic motive—is as active today as ever.

The rise of a social conscience and the spread of economic knowledge are beginning to challenge the unbridled rule of the entrepreneur and the banker. Both sides of the struggle are resorting to force to secure the triumph of their ideals, and the world is fast crystallizing around two kinds of dictatorship, the communist and the fascist. If we are to avoid both kinds of dictatorship and pursue an orderly evolution of economic adjustment and betterment, it is highly important that not only our colleges, but our high schools orient the rising generation to scientific method and give them some of the fundamentals of social and economic law.

To bury our heads in the sand and refuse to recognize that there is a situation to be met would be the last word in foolishness. That is what the reactionary forces of special privilege have done throughout the ages. A concession to liberal demands, a gradual introduction of reforms, and a surrender of the special privileges which were oppressive might have saved Louis XVI his head, the Russian Czar his life, and England her American colonies. In order that our progress may be by evolution and not revolution, the high schools of our country must include among their aims the following: to orient the pupils to the scientific environment and the economic environment of the twentieth century, to prepare them to fit into and change for the better the social and economic structure, and to give them the habit of the open mind, the scientific attitude.

All prejudice is repugnant to the scientific attitude of mind. This attitude demands the calm and critical examination of every theory and condemns the rejection of any theory merely because it has been branded with a name, capitalism, socialism, communism, or fascism.

To accomplish these aims biological science, physics, and chemistry must be taught in order to give students an idea of the evolutionary process, scientific method, and experimental checking of theories and hypotheses. World history must be taught, giving it a social and economic interpretation, pointing out the play of economic forces and the cause and effect in the history of the world. Books such as Wells' *Outline of History*, or histories by Robinson and Beard indicate the type that should be used. The elements of economics with a survey of modern economic theories and types of business organization must be included in the high-school curriculum. A course in bookkeeping should be included so that a student may know how to keep his own accounts and read and understand the balance sheet of a corporation.

The school library should be supplied with modern material on social and economic topics. Not only should the books of such authors as Adam Smith, Alfred Marshall, Irving Fisher, Maffeo Pantaleoni be included, but those of R. H. Tawney, Beatrice and Sidney Webb, H. J. Laski, and Karl Marx.

If the student is given an insight into the structure of modern society and the economic forces in control, he will not be a prey to cheap and easy remedies, nor will he be satisfied to allow abuses and maladjustments to go unchecked. The social investment in education of this type represents an insurance premium for the stability of our social structure and the improvement of our economic adjustments. Never in the history of the world was there so great a need for an educated citizenship. The need for social and economic readjustment can be accomplished peacefully if leaders and electorate have vision, understanding, and high ideals. These only education can give.

The Best Social Investment

By FRANKLIN BOBBITT[3]

THE HIGH SCHOOL, WE SAY, is an institution of learning. The learning consists mainly of the mastery of information and of the techniques used in gaining information. Doubtless the high school is promoting a number of other kinds of learning, but the two men-

[3] University of Chicago.

tioned make up the major portion of the program. For the moment we shall confine our attention to them. Two questions arise: What kinds of information can be of most human service? What is the best method of mastering this information?

Let us begin by distinguishing two kinds of knowledge: one we shall call live knowledge; the other, fixed knowledge. By live knowledge we mean the kind which one gets from day to day as the by-product of experience. During the past twenty-four hours, for example, you have viewed the things of your environment: the streets, buildings, stores, people, traffic, roads, weather, and a host of other things. You have glanced through the daily papers and noted the outstanding happenings throughout the world. You have had practical dealings with persons, motor cars, railroads, hotels, telephones, post offices, and numerous others. You have talked things over with your associates. In these activities, you were merely carrying on normal human living, and you had no particular thought or intention of learning; yet as a result of this experience with things, you have live information as to the nature and status of those things.

Of this live information, one gets a fresh supply every day, and the old of last week, last month, or last year fades out, making place for the new. Live knowledge changes with current experience; it is continually renewed. It changes in character from year to year throughout life as the mind matures. Even though it may concern itself with familiar things, yet they are being continually seen in new and different ways and relations.

By fixed knowledge we mean the kind that has been put into language and printed. The book can be read, re-read, and studied until the knowledge has been transferred in a way to the mind of the reader and has been fixed in his memory. This knowledge does not change from day to day or month to month, except as it fades. It does not grow. It does not change from year to year so that it fits the degree of maturity of the mind. If it is learned when one is fifteen years old, and if it is remembered, it remains a body of information appropriate to fifteen-year mentality. It does not change into knowledge appropriate to adult mentality.

The two kinds of knowledge call for techniques that are different. Live knowledge calls for an abundant experience from which knowledge results as a by-product. It calls for conditions at school and at home that will permit genuine human living. Its technique is the guidance of life itself.

On the other hand, fixed knowledge calls mainly for the study of books in a place apart from normal living, with the conscious purpose of storing the fixed content of those books in the mind. The

study may be supplemented by library, laboratory, discussion, and other academic devices for fixing information, but the aim of the work has no relation to the current life of an individual. He steps apart from life to get his education. He returns to life after he has got it. The technique of mastering fixed information is the exact opposite of that of developing and maintaining live information.

The high school that aims at live knowledge must be a different kind of a place from the one that aims at fixed knowledge. It must have different equipment, curriculum, program, teaching methods, and standards for measuring results.

The question before us today is this, Does the population of this country need to be equipped with live knowledge or with fixed knowledge? We can best answer by looking at a few specific cases.

Let us note first the case of a business man. He carries on his daily operations within a complex situation. He is concerned with markets, prices, raw materials, finished products, manufacturing conditions, processes, transportation, competition, advertising, supply, demand, capital, interest, political relationships, and numerous other things. These things are not merely local. Their ramifications are nation-wide, even world-wide.

For the business man rightly to deal with all of these things, he must see them and know them. He must see and know them as they are today, and as they are likely to be tomorrow. They change from day to day before his eyes. His knowledge, then, must be changing constantly. It must keep parallel with the changes in these things. It can scarcely be the same any two days of his business career. He must operate upon the basis of knowledge of current conditions.

In order to maintain his knowledge from day to day he carries on a number of intellectual activities. He observes as much as he can the things which make up the world of his business. He reads the morning and evening papers, magazines, trade journals, bulletins, and even current books, all of which give him width of vision over the field, and wealth of details. He talks over affairs with his associates and sees things from different angles. He meditates upon the factors and thus views them in his mind's eye. He analyzes them, evaluates them, notes relations that exist among them. He mentally views the factors as he makes his plans and as he directs their execution. In these ways, he views continuously the things with which his business has to do, and thus maintains the reservoir of his live knowledge.

This vision, direct and indirect, of the business world, he carries on every working day throughout his career. He cannot fix his

knowledge at any point for the reason that the world itself does not become fixed. As long as it changes he must keep observant of it; and this is as long as he lives. To maintain the knowledge by which he operates is a lifelong process. His schooling, if wisely done, may have helped him to get it under way, but that is all that it can do. Most of his education for live knowledge must come after his school days are over.

For the business man to get new and fresh information each day is only half the process. The other half is for him to discard the old and superseded knowledge. He must forget the things as they were in order that he may clearly see things as they are. Were the old knowledge and the new equally clear in mind, there would be nothing but mental confusion. The situation is analogous to the writing on a blackboard. If it is done on a clean board, it stands out clear and unconfused; but if on a board that is already covered with writing, it is confused and illegible. So it is with the mind in its knowledge of a changing world. The old version must be erased in preparation for the new. It is because man lives in a changing world that nature has arranged that man should speedily forget. In this power to forget, we find clear psychological proof that Nature intends man to operate on the basis of live, current, changing knowledge.

We live in an age of efficiency and we seek methods that are economical. For a business man to spend many hours each week in alternately assembling knowledge and forgetting it, doing the same thing over and over again through a long lifetime, calls for a vast amount of time and energy. Is there not some easy and economical substitute? Why do we not utilize the otherwise wasted hours of childhood and youth for the purpose, to the vast saving of adult time?

It is often assumed that the method of implanting fixed knowledge during youth is an economical short cut. The textbook knowledge can be complete and well organized. The learning can be done methodically. By the process of overlearning, the information can be firmly fixed in memory for a lifetime. This simple and inexpensive method can be substituted for Nature's long, complex, and wasteful method, and so the method of the school is organized to serve as a substitute for the method of life. Does it work?

Let us suppose that our business man while in school studied an excellent textbook, as textbooks go, which gave him a full and clear understanding of the business world as it was a little before the book was written. Even while it was being studied, then, it pictured business conditions that had already been superseded. Would the knowledge thus gained serve the purposes of the business man?

A few years later when he comes to the world of business and seeks to draw upon his carefully stored body of information, he makes three disconcerting discoveries. First, most of the knowledge acquired in youth will have evaporated. The business man should welcome this. He must not have his mind cluttered up with knowledge of conditions that have passed away. To have forgotten leaves him prepared to get fresh information. The academic method has not succeeded then in providing a substitute that makes adult learning unnecessary. Second, such knowledge as remained related to a world that was no longer existent. Almost everything would have changed in some degree, and many things in large degree. His fixed knowledge of a vanished world would be obsolete knowledge. The only thing of which he could be completely certain would be that it was thoroughly unreliable for his purposes. The more it has not been erased, the more it will confuse that live knowledge of current conditions which he should be acquiring daily and using currently for his guidance. Third, the knowledge gained in youth is only the simple sort that could be understood by the immature and inexperienced mind of youth. The knowledge needed by the mature man from year to year is that which has been gradually matured by experience. The boy will think as a boy; the competent man must think as a man. The method of textbook implantation is the method of giving to the man the thought of the boy.

These results show that the academic method of implanting fixed knowledge during youth as preparation for a long life does not and cannot work. In order to give to the world what it needs in the matter of information, we must aim at a different target and employ a different process.

There can be no economical short cut to knowledge. A time-consuming program, extending throughout life, is the only possibility. The business of the school is not to teach the specific knowledge that man needs, but to get a mode of intellectual living under way that will automatically get its own fresh knowledge daily as it goes along.

To prevent misunderstanding we must glance briefly at a somewhat technical qualification. The business man is concerned with many things which are permanent and which do not change. There is no practical reason why his knowledge of them should fade. Nature seems not to have been able to contrive a type of memory which operates one way in the case of things which are permanent and another way in the case of things which are transient. Yet this problem has been solved. There is as complete psychological provision for stability of knowledge of things permanent as for the transience of

knowledge of things transient. This is accomplished in Nature's provision for different effects of different amounts of experience. In the case of permanent and unchanging things with which one is actually concerned, one meets them again and again, hourly, daily, and weekly. This reception results in renewal and re-renewal of the identical impression. This gives it no chance to fade out, but gradually deepens the impression so that it never can fade out completely.

In this manner Nature provides for stability of mind. It is done not by the artificial academic method of fixing knowledge, but by continuity of new contacts with things that are old and permanent. Stability of mind, then, is one of the fruits of experience.

In the case of things changing with only moderate speed, the repetitions in identical form are never long the same. Some factor disappears or changes, the repetitions of it cease, and the impression of that factor disappears from the mind. A new form takes its place. The factors changing one after another result in a slow gradual change in the thing and in one's knowledge of it. A good example of this is the design of the automobile, as it slowly changes from year to year.

In this way Nature provides for only a moderate stability of mind for the things of the world that are in themselves only moderately stable. The two are kept parallel. We do not want a stability of mind that goes beyond the stability of things.

In the case of things that change hourly, daily, weekly, the opportunities for repetition of the experiences in identical forms are few. Lacking repetitions, they fade out quickly, and the impressions of the new forms take their places for their brief moment, when they in turn yield to still newer ones.

In this way Nature provides for a mental instability that corresponds exactly to the instability of things. This instability for the transient things is just as important as stability for the permanent ones, and the method for all of them is the same, namely, continuity of experiences with things.

It thus appears that in man's knowledge there should be both stability and instability as extremes of a scale along which lie all degrees of both. The program of education, as it aims at knowledge, should be of a sort that automatically makes stable the knowledge of things that are permanent, leaves instable the knowledge of things that are transient and accords semi-stability to the knowledge of things that change only slowly.

How can there be a program of mastering information sufficient to take care automatically of such different and contradictory things? Obviously, the program cannot be the mastery of verbal knowledge,

for this shows things the same today and tomorrow. It does not provide for those degrees of stability and instability of knowledge which are wholly necessary if one's information is to correspond to the nature of the actual world. We must then reject the method of mastering fixed knowledge.

The only possible way to accomplish the desired result is to employ Nature's method of arriving at knowledge as the inevitable after-product of mental experiences. Man must use this method throughout life. The school should use it by way of launching him upon this course. The school should aim not directly at knowledge, but at a continuity of normal, intellectual living that is wholesome, vigorous, diversified, joyous, and abundant.

It may be urged that the textbook knowledge of a changing world is true when it is quite general and makes no attempt to reveal the world in the concrete. The fact of the matter is, the world does not exist except in the concrete. It cannot be known in a generalized way except as the concrete is first known out of which the generalizations grow. The textbook method, aiming at a short cut to generalized knowledge, would evade vital and extended contacts with the changing concrete. It cannot succeed. The mere fact that the generalizations in the textbook are true does not make the plan workable. The laws of mental growth do not permit such short cuts and evasions. For mental growth, the whole road must be traveled. The reason the graduates of high schools and colleges are today so ignorant of the things whereof we have tried to make them enlightened is that the institutions have employed short cuts and evasions, instead of having the young people travel the whole road. Their ignorance would be worse if it were not that the young people find for themselves an abundance of vital experiences from which live, and therefore genuine, knowledge results. But such self-found experiences tend to be primitive, fragmentary, and unbalanced, resulting in a highly inadequate kind of live knowledge.

Let us take another illustration, namely, the knowledge needed by the public-spirited and efficient citizen. Government in a democracy is supposed to be an externalization of public opinion. The things to be governed are economic institutions, political institutions, families, communities, states, philanthropic agencies, churches, theaters, hospitals, schools, taxation, motor-car traffic, labor unions, employers' organizations, and all the thousand things that have to be managed co-operatively for the general good. These can be efficiently controlled by the agencies of public opinion only when in general citizens participate in public opinion relative to them. This public opinion consists of knowledge of the facts and evaluations of them. The

competent citizen must then see and know them currently as they are. Almost without exception, each is changing. His knowledge of them must change parallel with the changes in them. It cannot then be knowledge acquired in school during childhood and youth, and then enthroned as guidance for life.

An example of this is the citizens' management of the public school. A given citizen thirty years ago studied a well-organized treatment of community civics under an efficient teacher. He was taught essential facts relative to what was then considered right operation of the public schools, correct taxation, proper amount of revenue, adequate teachers' salaries, program of studies, plan of building, and character of equipment. Let us assume that the community civics had been so well taught that it remains in his memory. If now the citizen comes to his present-day duties in connection with the public schools with this ancient equipment of knowledge, he will favor the revenues, salaries, programs, buildings, and equipment thought good thirty years ago. This would be civic guidance by knowledge that is obsolete. For such a disability to be widespread would be a national calamity. We have, however, been saved by two things: poor teaching, which permitted the fixed knowledge to evaporate before it had a chance to prevent progress; and live knowledge obtained by citizens outside school courses in their observation, reading of newspapers, and community discussion.

A third field of educational need is health training. In the care of one's health, one deals with matters that are changing every hour, every season, every year. The labors are to be performed in an environment which is never fixed. They are to be guided by a health science that is continually growing, advancing, and shifting its ground. Each person's information therefore needs to be continually changing. Because he forgets, his information must be continually reinstated and renewed; it needs to be matured year by year by continuity of new experience. The health science that one can understand, master, and apply as a child or youth is quite inadequate for guiding the health of a long lifetime.

The high school cannot possibly know what information a pupil is going to need years hence. If it could know, it would see that his knowledge would be, and should be, different each year of his life. It would see his future knowledge as made up of a succession of stages covering fifty years or so, each stage a more complex and matured form than the preceding one. It would see the knowledge of the adult as a thing that requires fifty years to pass through his mind. It would see knowledge as a process, not as a fixed thing.

The teacher cannot foresee the particulars of this succession of stages of maturing knowledge; even if he could do so, there is no conceivable way in which the knowledge could be given over to the pupil. To the latter, it must come as an organic portion of his total life-process. The pupil cannot have any stage of the knowledge until the time comes for that stage, and nobody can know in advance what it is to be.

For maximum service the high school must aim, not directly at information, but at practicing the young people in a mode of intellectual living which automatically accumulates its information as it goes along.

The curriculum for training the intellect is to be an activity curriculum. Its aim is to make one proficient in carrying on current intellectual operations. One becomes proficient in such operations by long practice in carrying them on, where they are normal and genuine. One becomes proficient in intellectual living simply by long practice during the years of growth in intellectual living.

The life of the intellect goes on during all of one's waking hours. This is sixteen hours a day, or one hundred hours a week. As it functions during this time, so it is shaped and matured. The high school is to take this functioning and guide it into fruitful channels.

This intellectual functioning shows itself in several major forms: observing directly; viewing things as represented by pictures; reading; listening to the presentations of others; discussing things with others; solving problems; planning practical behavior; and guiding the execution of plans.

These forms of intellectual functioning will concern themselves with all the sorts of things with which mankind has seriously to deal. In our complex and interdependent world, this is just about every sort of thing that exists. It consists mainly, however, of two classes of things: first, the human or social world with its individuals, families, communities, states, races, classes, economic agencies, political institutions, recreations, arts, religions, education, philanthropy, transportation, communication, and all the rest; and second, the natural and material world which man must continually use and to which he must be continually making adjustment. These latter are mainly the things treated in the several physical and biological sciences.

For reasons that we cannot here present, it seems imperative that all men and women be intellectually equipped through practice for dealing as proficiently as possible with these two major classes of things, and that they thereby develop and maintain live knowledge which parallels the actualities, and which changes and matures year by year with increasing experience. Since needed by all persons, it

seems that these phases of education should be administered by the high school to all pupils, equally, without election or specialization; though, of course, we must expect differences in results corresponding to differences in natural endowment.

As the result of considerations which we cannot at this time present, there is reason to believe that the matters mentioned, the social studies and the sciences, in their ramifications and practical applications, should occupy at least three-quarters of the program time of the high school, leaving perhaps one-quarter to English language, foreign languages, the non-arithmetical mathematics, drawing, music, and such other matters as may enter into the high-school curriculum.

A question confronting the high school of major interest just at present is that of costs. Can a modernized program be managed at less expense? We wish that we could say so; but it is not probable. The evidence points in quite the other direction. A program of vital and varied experiences calls for more diversified equipment and for teachers of wider outlook and greater maturity of understanding than does one of simple textbook teaching. Both are more expensive.

Such a program, if made vital, must throw the pupils more upon their own resources than at present. Whether this can be done in such measure as to increase the number of pupils per teacher, and thus bring down costs per pupil, cannot be known until the matter is fully tried out; but it is not probable. As for shortening the years of education, everything demands quite the reverse. Even with more time we shall never accomplish all which current social conditions make necessary. Finally, the high-school education is needed by one hundred per cent of the adolescent population.

Although the cost of adequate high schools cannot be reduced, the schools might be so organized and managed that the social value of the educational results might be doubled. The thing that we must do in meeting community opposition is not to lower costs but to give a service of double value.

Let us summarize our discussion in a few brief statements. The high school should aim at live knowledge, not fixed knowledge. It cannot aim directly at live knowledge, but only at a mode of intellectual living, from which the knowledge continually emerges as an ever changing by-product.

The live knowledge needed is mainly that of the social world and of the underlying natural world. The social studies and the sciences, so developed as to promote the growth of live knowledge, should occupy probably three-quarters of the program time of the high school. The cost of an adequate high school probably cannot be lowered; but the quality of the results can be greatly improved.

A High School for a Changing World

By JOSEPH W. FICHTER[4]

THESE ARE INDEED TRANSITIONAL DAYS. We are witnessing the rise of a civilization, founded on science, technology, and machinery, which is rapidly making of the entire world a single great society. A test tube in the fingers of a chemist, a fetching sales slogan, and an established industry is shaken, or a new one is created. Our engineers tell us that our technology has reached a stage of development which now should enable us to produce several times as much goods as were produced at the peak of prosperity, with the working day reduced by half. Thus, we are capable of ushering in an age of plenty, of banishing poverty and want, and of freeing people from long periods of drudgery.

The enriched curriculum is here to stay, for the school that is to train for life must be as broad in its resources as the civilization for which it prepares. All that is of concern to civilization should be of concern to the school. It is not to be implied that there is to be a detailed study of everything.

The curriculum will consist of fewer and more inclusive units of study. If the high school is to serve the needs of a changing world, it must continue to be inclusive instead of exclusive. It is not sufficient to encourage the attendance of all children by providing a broad curriculum, but increased effort must be directed toward making all studies or subjects educationally and socially respectable.

More attention will be given to the educational process. Adjustment to individual differences must become a reality. This will probably mean less insistence upon prescribed courses and required subjects. We must recognize that learning is motivated by the satisfaction that comes from successful achievement and that reward is better than punishment as an incentive to learning.

More attention to the educational process will result in added provision for self-education, with the teacher assuming more and more the rôle of a guide. Self-education is the only kind that fits one to keep up to date in a changing world. If the high school is to accomplish all that such a broad program implies, it must make use of visual aids, radio, and all devices and methods which can supplement the work of the teacher.

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Home Economics and Community Standards

By HAZEL KYRK[1]

THE STANDARD OF LIVING in Devine's words "means all those things one insists upon having." It is not a collective name for the commodities enjoyed at a given time, nor for those desired, but for those things "which many men in common hold to be clearly essential to them," and want enough to obtain them. It is the standard of living that determines that for which we spend time and money; that determines our manner of living, our food, clothing, and housing; that determines the way we spend our daily leisure, our holidays, and our feast days. An adequate description of the standard of living would include the kinds and quantities of commodities and services the given group struggles to secure and the arrangement, order, and ritual necessary for their enjoyment.

The standard of living of a community is an expression of its cultural level; it determines what in the way of fundamental values, such as health, beauty, knowledge, and experience, the members get out of their income. Each standard has its cost in the time of the home-maker as well as in money, and the correlation between the amount of each expended and the welfare of the family depends upon the standard.

The appraisal and the improvement of current standards of consumption are two of the major responsibilities of home economics. The family is the major consuming unit, and women are largely responsible for current standards of consumption. One of the most important functions of home economics is the examination of the uses made of time and money and their redirection if necessary.

The American standard of living has been criticized on four grounds: it is a *nouveau riche* standard; it gives little play to individuality, and much to conformity and imitation; it is colored highly with desire for display; and it is on a low aesthetic level.

Home economics encounters many obstacles in its attempt to build up standards for the use of time and money. Counteracting forces may come from the home, from contemporaries, from books and moving pictures, from sellers and advertisers, from the spirit of

[1] University of Chicago.

the age. The work in home economics in improving standards has fallen into four groups: the building of sound standards for food selection from the nutritive standpoint; the building up of aesthetic standards for the selection of clothing and furniture; the democratization of standards by teaching correct usage and the approved code and ritual; and the development of discrimination and thoughtfulness concerning uses of time and money through the work in budgeting. The work of the nutritionist has been easiest, soundest, and most fruitful. It has been easiest because the nutritionist gives consumers what they want to know, the means to physical health and vigor. It has been soundest because of the scientific knowledge available. Work in related art and household management has been hampered by vagueness of objectives on the part of instructors and by the fact that consumers are interested primarily in fashion, in emulation, and in how to attain the accepted standard of living on a limited income.

To increase future effectiveness, those in home economics must make a more critical analysis of current standards, must lead their students to study their nature and origin, must emphasize the wasteful, ugly, and unethical elements in our standards, must definitely work for a technique that will promote discrimination, thoughtfulness and individuality in choice, and must place the work in aesthetics on as sound and clear-cut a basis as the work in nutrition.

Social Values of Parental Education

By JOHN E. ANDERSON[2]

WHEREVER WE TURN IN THE HISTORY of the last half-century, we are struck with the increasing emphasis placed upon personal and human relations. Biography and autobiography have increasingly dominated our reading. The magazines of today are filled with advertisements describing the devious ways in which one may become more attractive to his fellows, become the center of the group, dominate, please, or fascinate those whom he meets. The stories which carry the advertising to the readers run the gamut from personal confessions to psychological discussions of an involved type.

Science, too, is interested in problems of human relations. Despite the great advances in the physical sciences, the last half-century has witnessed the emergence of the psychological and social sciences into their present hearty state. Intelligence tests, with their clear demonstration of the existence of differences between individuals, have

[2] University of Minnesota.

focused attention in no uncertain way upon the individual. Widespread reforms in educational procedure, the provision of special facilities for the retarded and the gifted, all bespeak this growing concern.

Mental hygiene, vocational guidance, educational placement, the guidance clinic, and the juvenile court furnish part of the picture. Everywhere there is examination of the manner in which the individual adjusts himself to his environment. Even in the conservative field of law, the concept that human values may be more important than property rights reveals a shift in thinking which has reached even the Supreme Court of the United States.

It is within this framework that the modern movement for parental education has appeared. With the study of the individual child, the home as a determiner of conduct has come into its place beside the school. No longer are we quite so convinced as were our educational ancestors that the school can carry the entire load of adjustment. By training parents for their responsibilities in the guidance of youth, parental education seeks to facilitate the adjustment of children, and of the adults that result, to the world about them.

In a sense parental education bears much the same relation to the clinic or guidance agency for remedying behavior problems that preventive medicine bears to the treatment of disease. In this sense parental education is forward looking since it seeks to avoid those difficulties and complexities incident to growth and development in a social world, rather than to provide specific devices for meeting difficulties after they have occurred. Not all the people in or outside the field of parental education recognize this fundamental principle. To many, parental education is still the discussion of the behavior problems immediately confronting parents.

If the preventive function is characteristic of parental education, it is even more strikingly characteristic of pre-parental education. In place of the parents of young children who constitute the clientèle of parental education, the clientèle of pre-parental education is composed of those who some day will be fathers and mothers. Since marriage is the destiny of almost all who go through our school system, it is not illogical to suggest that pre-parental education should become a part of the school system. The tasks parents have to face in their daily life with their children call for as much skill, as much intelligence, as much careful training as do any of the responsibilities met in the professional or vocational activity for which the school ultimately seeks to train the individual.

In this day and age we do not turn the education and training of six-year-old children over to inexperienced and untrained individuals.

In every state, schools and colleges have been established for the training of teachers. But society has no hesitancy whatever in permitting a young man and a young woman, facing the problems of married life, with no particular preparation for their responsibilities to have complete care of a child from his birth until he is six years old.

In the curriculums of our grammar schools, high schools, and colleges, little or no attention is given the students as potential parents of the nation. Although nurses, doctors, and teachers may have some contact with the material, the students who constitute the great mass of future parents have little or no opportunity for pre-parental training. Nor has home economics failed to reflect the changing atmosphere of our time. Where a few years ago home economics was preoccupied with problems of diet, of material furnishings, and of clothing, it is now moving rapidly in the direction of emphasizing personal relations within the home. One must not forget the widespread advertising of devices calculated to reduce the drudgery of housework and of furniture to beautify the home, and the periodicals that constantly emphasize better standards of home life.

Without decrying in any way the effectiveness or social value of the parental-education movement in the field of home economics, it may be worth while to indicate some of its present defects. Obviously we cannot be sure that all persons within the field of home economics are equally modern and progressive in their points of view or in their attacks upon home problems. Undoubtedly there are some who still feel that a clean house with every item of equipment exactly in the right place is the ideal home regardless of whether such cleanliness and neatness are purchased at the expense of the human relations within that household. We are not so much concerned with individual variations as we are with underlying trends.

Although the woman is the better half of the family, we can hardly consider a program of pre-parental education adequate which concerns itself entirely with girls and women and devotes none of its time or energy to boys and men. Nothing substantial has been done so far in setting up a program for the education of boys and men in family life. This is not so much a criticism of the home-economics approach, as it is a statement of the one-sided attitude which dominates much of our thinking about home life. If we are to improve family relations, men must be considered as well as women.

A second point of some importance concerns the academic character of so much of the instruction relating to home life now available in our schools and colleges. The home exists twenty-four hours a

day; the young child is in the home twenty-four hours a day, yet practically none of those now giving instruction in the field of family relationships have themselves had the experience of forming and guiding a family.

To illustrate: a girl on entering college decides to take home economics and receives four years of training. She then begins teaching home economics to younger pupils having had her instruction in college chiefly from unmarried women who have grown up under a similar régime, with little or no contact with twenty-four hours of living in a family. Year after year we have the same course followed, unmarried women teaching home economics and home management to girls who will become home-economics teachers. While I would be the last person to say that the unmarried person cannot make significant contributions to family life and to our knowledge of the home, nevertheless, I am impressed with the fact that a cultural tradition, founded on the purely academic, without contact with children or homes, may be in the making within our home-economics departments and may be built up and handed on from one generation to another.

The movement for practice houses with babies in them, the movement for the establishment of nursery schools, and the contacts with institutions for children are steps which show the recognition of the problem. All these furnish a laboratory which brings to the student practical contact with some of the problems relating to the rearing of children. If the subject-matter of the instruction in family relations and child care is to impress the students with its value and contribute directly to their future welfare as citizens and parents, special efforts must be made by the teacher to keep continuously in contact with life and with human and family situations. Although this can be done to some degree by reading, it can never be adequately done except by persons who are interested in the reactions of others, who are continuously on the alert in observing others and thinking about their actions.

It is much easier to teach out of a book than to teach from life. Too often we take the words of a book as gospel, instead of modifying and checking them against our experiences and our observations of others. The danger of losing contact with life is somewhat greater with high-school and grammar-school instruction than it is with college instruction, partly because high-school and grammar-school students themselves have had little contact with life and have done less thinking about it. So far but little success has been attained in the attempt to teach psychology at the high-school level. Some of our

social scientists feel that instruction in social science in high school is not as successful as it might be because contact with other individuals, the meeting of common situations, the experiencing of common difficulties, seem to be necessary for the understanding and appreciation of the subject-matter of a field which deals with human affairs. Younger children and adolescents lack the variety of experience and background necessary for understanding.

It seems to me that the home-economics teacher has a vital place in any program of parental education. She already has the students, she has the traditions, and she is rapidly gaining the background with which to approach her problem in the concrete; but if she is to be effective she must realize that all of her teaching should be interrelated. Sometimes the house can be so well kept, with standards so rigorously enforced, that it is the poorest place in the world in which to bring up children. Sometimes the consideration of behavior problems is less important than supplying adequate diet and proper rest. At another time emphasis upon furnishings may be out of place because the relations between the members of the household have become so entwined and entangled that no amount of material equipment will straighten things out. At other times rules and regulations must be followed strictly in order to make the best adaptation to the individual case.

What I have said is that no matter how vital or important the work of parental education may seem to you, no matter how significant your attack on the problem of home-making from the standpoint of ordinary, academic standards, it will lose its effectiveness unless you yourself are a human being and can bring to your students a conception of life and an interest in and a sympathetic understanding of the behavior of other individuals. We sometimes see the child's behavior as though it were distinctly different from the behavior of the adult. While it is true that each child presents his own problems and must receive treatment that in many respects differs from that given the adult, it is also true that human reactions and human behavior, whether we see them in the child or in the adult, are all of a piece. The care of children does not differ fundamentally from that of adults. In a household in which the parents fail to get along with one another, in which they have difficulties with their neighbors, with their servants, and with other people in their community, one can hardly expect the children to have effective reactions toward the parents themselves or toward other individuals.

It is the function of the teacher in home economics to study not only other people but herself so as to observe the manner in which

her own reactions are living examples of what interrelations among human beings should be. She must see life itself as an interesting and exciting process so as to be able to convey to her students some inkling and insight into its value and worth-whileness. It is here perhaps that the home-economics teacher will find some handicaps. Too often she has gone through a curriculum so loaded with physics, chemistry, physiology, and other sciences that she has come to look upon all life as inherently well organized and exact. As she moves over into a teaching of child development with this experience and these attitudes, she becomes disgusted and disturbed because the subject-matter does not fit like the pieces of a jig-saw puzzle, and she conveys some of this feeling to her students. Under these conditions she is apt to become either very set and exacting in her ways or very careless because she feels that no basic principles hold. Either attitude is harmful because each is incorrect.

In conclusion, may I say that a magnificent opportunity in parental education lies in the field of home economics. Teachers of home economics have contact with students in elementary and secondary schools, and in institutions of higher learning. They have behind them a fine tradition of service to the home and to homemakers. On the basis of this tradition, they can make a great contribution to American life, even greater than their contributions in the past. If, however, they are to make such a contribution, it is necessary to prepare thoroughly and carefully for the venture into what is essentially a new field. Children and parents are not vitamins, calories, dress patterns, artistic pictures, or furnishings; they are living, dynamic persons in a complex world. To them must be given our best if we would achieve the full social value of parental education. The venture into their living and guidance is a glorious one, abounding with personal satisfactions and opportunities for continued growth.

Investments in Education for Family Life

By ESTHER McGINNIS[3]

In a conference in which the general theme is education as a social investment, a survey of investments in education for family life seems particularly appropriate since a happier and more satisfying home life is a fundamental need of society. One of the monographs of the White House Conference, prepared under the guidance of

[3] American Home Economics Association.

Anna E. Richardson, *Education for Home and Family Life at the Elementary and Secondary Levels*, presents certain possibilities in this field and gives illustrations from various schools and subject-matter divisions. The purpose of the present discussion is to show the contribution home economists may make and to describe methods and experiments which are in progress today.

If the development in individuals of those qualities which make for wholesome, well-adjusted personalities is the first need of parents, and if education is essentially preparation for wholesome, sane adult living which will include mating and parenthood, the first and major emphasis on education for family life will be the optimum development of the capacities and personality of each student.

There are many signs that the needs of the individual student are becoming more real to teachers and administrators. In recent years colleges have appointed persons whose responsibility it is to know students. An example is the appointment of junior deans here at Ohio State University. Classes for students with scholastic difficulties and special studies of individuals who continue to fail or are socially unadjusted have been made. Specialists in mental hygiene are attached to the student-health service, and the students are encouraged to use them in the same way that they consult physicians about physical difficulties.

What contributions might home economics make to the development of the individual if the needs of students were always paramount in the minds of teachers? Since so much of the subject-matter of home economics is related to health, both personal and community, one contribution might be the stimulation of an interest and a desire on the part of the student to live in such a way that good health results. The facts discussed in nutrition, in sanitation, in home nursing, and in personal hygiene mean little unless they are presented so convincingly and persuasively that the student embarks on a program of sane living in which health habits become automatic. In one school an educational campaign in the school cafeteria was begun by giving the first grades their trays with the food on them. Simple talks about the selection of foods were made. Then they were promoted to selection under supervision and finally to free choice. A check was made at intervals to note the selections of the children in different grades, and talks were given in which their wisdom was commended and certain suggestions for improvement made. Young children are interested in the reasons for certain habits, so perhaps there is a need to extend health teaching in an interesting, vital way to earlier grades. Individuals who show evidence of malnutrition may be given help through personal consultations and frequent checking

of their schedules and of the changes which they have made in their habits.

Every adolescent boy and girl desires to make a good appearance and to know what is expected of him on social occasions. In one high school fifty boys enrolled in a course on social relationships in which many situations were discussed and practice was given. Naturally, questions of family relationships and conflicts were raised also. Personal grooming, as it is related to popularity, to opportunities in business and education, to self-confidence and mental health, also interests students of all ages.

How to spend money in such a way that one is suitably and attractively dressed vitally concerns young people. Ability to make use of one's time, to make a plan in which the various demands of family, school, recreation, and one's own desires have a proportionate share, and then to stick to it may determine scholastic failure or scholastic success.

Undesirable personality characteristics need careful study and skilled handling if an attempt is made to deal with them individually. The home-economics teacher has an opportunity in the laboratory, in the classroom, and in the pupils' contacts with other pupils and with organizations to help or hinder adjustments. The student who is shy, timid, superior, intolerant, or has other noticeable difficulties may be assisted indirectly if the teacher is wise and understanding. Whether the individual student solves his own problems and uses what he needs from teaching of this kind seems to depend on the personality and enthusiasm of the teacher and on her ability to teach in such a way that the student's interest is aroused. The home-economics teacher who is interested in the individual development of each student utilizes every opportunity outside the classroom to know the student and to provide for him situations and experiences which may help him to solve his problems.

Are there certain areas of living with which students might become more familiar through reading, observation, and discussions which might result in happier marriages and wiser parenthood?

Contacts with children when directed and interpreted reveal the basic mechanisms of human behavior. The nursery school may be a center where experience with children at different age-levels and with many temperaments is obtained by students of both sexes in high school or in college. While the number of nursery schools in which students participate is small, the results seem to indicate a genuine development in understanding and changed attitudes toward children as individuals. Through the study of children both adults and adolescents gain an insight into human beings and their behavior, includ-

ing their own characteristics, without too much self-analysis or too great self-consciousness.

Helping to care for a baby in a home-management house gives a more intimate experience, in which the individual's responsibility is greater. Alumnae who have had this experience testify almost unanimously that it is helpful in their own family life later, and studies of the babies show that they thrive and develop quite normally.[4]

The home-management house may be a center of group living that is fruitful in increased interest in the family and in ability to manage income and time so that goals, such as friendliness, hospitality, health, and the joy of living, are reached. Perhaps experiences of this kind ought to be available to all women students who wish them rather than be limited to home-economics majors. One hears many wails among young married women about their failure to reach desired goals because of their entire lack of management experiences.

Much insight into family life may come from biography and fiction which deals with family situations. Discussion of these encourages interest and understanding. There is a wide range of reading available which is of value to students, which might broaden their backgrounds. Problems such as woman's desire to continue in a profession or job after marriage, the change in the position and attitudes of women toward marriage and home-making, the causes of divorce, changes in family organization and methods of control, the place of sex in the life of each individual, and the emotional background of human behavior are of keen interest to students.

Encouragement of student contacts with families at different levels increases the interest in these problems and makes the discussions more fruitful. Care of children in homes in the community or assistance in a settlement, clinic, hospital, or nursery school is helpful.

If the discussions of family life challenge the student to face changing conditions seriously and to try to understand them and her own reactions to them, it will be necessary for the teacher to have a wide background of experience, to be living a full and satisfying life, and to be genuinely interested in the problems of the family today. "The curriculum of the school must be drastically reconstructed to give youth a more realistic and at the same time appreciative knowledge of the family as it functions in a modern world."[5] The vision and background of the students and the teacher will be the only limiting factors.

[4] Vance, Thomas F., and Simpson, Ruby. "Comparison of Children in the Home Management House and in a Normal Home Situation," *Journal of Home Economics*, XXIII (1931), pp. 751–53.

[5] Newlon, J. H. "The Rôle of the Public School in Parent Education," *Papers on Parent Education*, p. 81.

Hart has stated that changes in education or in social policies will come through adult education only, since adults determine the policies of schools and of the homes in which children are educated. Any changes in home or school, then, will come largely through the education of young people and young parents.

If the statement that the personality of the individual is the greatest factor in parenthood is true, one goal of parental education is to increase parents' understanding of their own needs as individuals seeking certain satisfaction from life. Any procedure which broadens appreciations, increases enjoyment, lessens tensions, or makes life more worth while is indirectly good parental education. In this sense all education and all living contribute to parenthood and family life which are in themselves "ways of living."

Lindeman suggests that parental education is a "folk movement" arising from the needs of parents who are facing a changing world and are bewildered by it. Many organizations are used as vehicles for the expressions of these needs. Home economics has tried to answer the call for assistance through evening and day classes organized under the vocational-education acts. In these groups many of the leaders are parents who are given special training and supervision. In rural districts the agricultural-extension service sends out specialists who meet and train the local leaders regularly. In some states a separate department of parental education has been set up under the state department of education. A number of cities have parental education in the schools either in home-economics vocational education or separately. In a recent monograph, *Parent Education*, from the White House Conference descriptions of many of the ways in which leadership is provided are given.

One way in which the home-economics teacher may broaden her understanding of family life and parents' needs is to co-operate with these parent groups. Her training should enable her to help parents and in turn she will learn much from them if she is sympathetic and wishes to learn. Parent groups are eager for co-operation and often express the feeling that educators are not sympathetic with their needs.

One important problem in parental education is that parents should be helpful to solve their own problems rather than to accept panaceas or formulas. Parents should become more and more capable of attacking problems and solving them and less and less dependent on the group leader or the group for advice. If this is not the result, the methods used need to be carefully scrutinized.

Education for family life includes all experiences and training which help to develop wholesome personalities and helpful attitudes.

Schools and colleges are increasingly awake to the needs of the individual student. Much more might be accomplished if each teacher were aware of the significance of this kind of education and its fruitful results. The criteria for selection of teachers would also be changed if the needs of students were paramount. Home-economics teachers have a contribution to make to the individual development of students in health, in personal grooming and social behavior, in management of money and time, in self-reliance and independence, and in personality characteristics.

There are certain areas of living in which reading, observation, discussions, and interpretations are needed by students. Problems of marriage and parenthood, changes in the family and the position of women, and understanding of human behavior must be met by each student. Contacts with children in homes, nursery schools, and home-management houses and a wider range of reading and of contacts with families are some of the ways which are available. Investments in these will come to have a larger part in our educational program.

Since, in the last analysis, adults determine educational policies both at school and at home, facilities for adult education are essential in education for family life. An understanding of the personality development of adults and of the satisfactions for which they strive needs to be clarified.

Many agencies are striving to meet the needs of parents, among them home economics through its vocational-education program and the agricultural-extension service. The teacher of home economics through co-operation with parents has an opportunity to give and to learn, which opportunity is limited only by her own vision. All parental education, if sound, leads to increased self-reliance and ability to attack problems and solve them in the way which is best for each member of the family. Education for family life is one of the ultimate goals of all education which affects intimately the life of each person and the welfare of society.

Unsolved Problems

By DAVID SNEDDEN[1]

THE PROBLEM OF THE EDUCATIONAL SOCIOLOGIST is to discover social interpretations which can help education minister effectively to our desires for a better civilization. Thus, whether I liked it or not, I have been forced by my position at Teachers College to consider a whole range of problems having to do with the functional aspects of education, its particular terms, special values, the correction of certain abuses, and the specific shortcomings.

There are many areas of this great social front. We Americans want to use education of one kind or another to prevent crime; to anticipate hard times; to enhance culture; to improve the use of our mother tongue; to maintain health; to make us better voters, better morally, more competent vocationally, and richer in other satisfactions of life. In other words, more and more we are thinking of education as a kind of initiatory agency reaching into all lines of good things.

The dictionary definition of "vocation" is ample for most purposes. A man's vocation is that part of his activities by which he earns his living, by which he does his share of work in the world. His vocation is not his recreation, is not his health, is not his voting, and is not his morality, but it is that part of his activity wherewith he earns the necessities and the purchasable satisfactions of life. Vocational education, then, is simply a training that enables a man to exercise his vocation competently over a number of years. A man's training to be a good shoe repairer, or a good locomotive engineer, or a competent electrician, or a good elementary-school teacher, is in each instance vocational, and the education which gives such training is vocational education.

While being competent in vocations is not all of life, such competency nevertheless plays a great part in life. If you wish to have plenty of food, if you wish to be cultured, if you wish to send your children to school for several years, if you wish to travel, if you wish to have an opportunity to learn more, you must have vocational competency.

[1] Teachers College, Columbia University.

We shall be forced more and more to provide education to train people for vocations simply because that demand is written in terms of social economy and social efficiency. Now we have vocational education well developed in many of the professions, and we are going to improve it in many other fields. We are just in the infant stages of vocational education as yet, except in the professions.

The Laboratory of Industries in the Ohio State University High School is not for the purposes of vocational training, for vocational training is the work that starts when the person is definitely oriented, and it leads or drives him directly toward his vocation. Even if his vocation is specialized, as that of shoe repairing, or locomotive driving, or plumbing, or printing, or agriculture, his training should be that which fits him particularly for such a vocation and should begin later and be concentrated. There is coming to be just one standard of vocational competency which we must accept because it is sociologically sound. We should stand for that degree of competency of training which will put the individual and his work on a wage-earning basis with something approaching the competency appropriate to a person starting in earning life. In other words, we will have less and less use for fractional parts of a vocational training, and we shall want such competency, as we now have in dentistry, as we are trying to have in elementary-teacher training, as we have in the best professional schools. In other words, our program should start with a plan for a career whether it be in shoe repairing or orange growing.

Another aid to vocational education will be the concentration of schools such as we now have in some professions. Consider the number of engineering schools to be found in Ohio; there is a concentration of a variety of engineering schools in Ohio State University with the result that in many other institutions of the state engineering is not taught. More and more the good vocational schools will be centrally located, and the students will come from a distance.

Another field of industrial arts that in a fundamental and ultimate sense has nothing whatever to do with vocational training, any more than the study of English composition or of American history or of arithmetic or of French has to do with vocational training, is that of the amateur practical arts.

"Vocational" as an adjective refers to business; it implies skills, technical knowledge, and the like, products which have commercial value. The term "amateur" connotes something that in its fundamental sense is play on a high level. I do not like the term "play" as applied to industrial arts, because it has too much of the connotation of the play of children, but the boy of fifteen who is doing shop work is engaged in a high type of play, stimulating and enriching.

The industrial arts represent from my point of view the amateur phases of any work. Strictly speaking, we might bring into the shop, if we could, amateur work with oil wells, with electrical plants, with coal mines, with swamp drainage, or with repair work for an automobile or a dynamo. All of that would come into my conception of amateur industrial arts. Many of our forefathers did not need industrial arts in school as our children do, because their parents practiced a score of simple farming vocations, in which they were able to participate. Such work represented a splendid opportunity for familiarity with these arts on a utilitarian, not a play, basis.

In a little book on junior high-school industrial arts, which Mr. Warner and I once wrote, we noted one curious thing about the industrial arts. When that subject first appeared in America, about sixty or seventy-five years ago, the public was told that it was vocational education, and the public believed it because it appeared to be true. Later, when it was found that manual training did not function as vocational training, the public was not told of the mistake. This information was withheld, because we knew that the industrial arts, in the Indian sense, were good medicine for boys, although we did not know why. Just as the earlier settlers used quinine for malaria (they did not know why, but it was a cure) so industrial-arts education was good, especially for the city boys who first got a chance at it. We have, therefore, kept the subject going. Now some of our school boards want to trim it off as part of the frills and fancies, but if we can get back of your school boards to the parents, we shall find the city parents vigorously in favor of it.

Manual arts were introduced into the schools for the alleged purpose of training the hand and the eye. It was thought that the reading of books trained the mind, similarly working with the hands will train the hands and eyes. We had to give all of that up when we had to surrender the faculty psychology.

The next step was the development of the theory of centers of correlation. You could merge your arithmetic and your history around industrial arts. That was Dewey's educational philosophy in the beginning, and Miss Dodd carried the subject far. That has been given up because it proved to be an empty pursuit.

Then we had those who argued for consumers' culture. That is not a bad idea fundamentally. Consumers' culture is the culture that makes the purchaser choose better clothing, prefer better furniture, good photography, and fine automobiles. I do not think consumers' culture is to be gained from industrial arts, although industrial arts might be handled in a high-school shop so as to give some idea of the consumers' taste.

Americans today lead the world in their utilization of printing. There are a few areas of German and British typography which are superior to ours, but they are limited. We are widespread readers and consumers of high-grade typography, particularly of advertising typography, but there is little use to aspire to influence that taste by the pitiably small amount of printing we can do in our schools. Understand, we want the pupils to have printing, but not for that function. Also, can industrial arts contribute to the development of town planning, of beautiful buildings in our cities?

We have also made a great deal of prevocational training. Some of us "got by" for eight or ten years on that perfectly splendid, mouth-filling phrase—prevocational. Just as the lady said there was something dreamlike in the word "Mesopotamia" and she just loved to use it and to hear it, so there has seemed to be something splendid about the word "prevocational," but it is quite empty of content.

There is another type of objective which I should call social comprehension; there also is vocational exploration. In this we get a little out of our shop work, although not much, not because like prevocational printing the thing could not have happened in the days when industries were simple, but because it cannot be made to relate to work as now carried on in the modern world, the modern world of city building, of gas transportation, of shipping, of forestry, and of lumbering.

So we come to the two remaining possible objectives of industrial-arts education. First, there is the handy-man training, which is the matter of getting familiar with the use of tools, so that we can use them. Second, there is the enrichment of realistic experience. Here, I am satisfied, our parents are with us when the boys get into miscellaneous shop work. Do not forget that this enrichment of experience is the same thing that comes from travel, from excursions, from boy scouting, and from the natural satisfactions of a wide range of curiosities which we all have. This is an important objective. It is fundamentally a cultural objective. What do you get out of reading the newspapers day by day? You may not be able to put your fingers on it, but you are keeping in touch with the world. You know what is going on. You are members of a bigger community by virtue of that. It is the same with industrial arts for boys.

I believe that our industrial-arts values fall very much into that area. It is an area that has been in my judgment sadly neglected, this matter of equipping every young man at this stage for those richer activities, those handy-man activities, just for the sheer joy of doing it, gardening or woodworking or printing or photography or what not. We ought to have it as part of our amateur activity.

The Journalism Course of Study

By GRACE A. BLAKE[1]

In 1930 Miss Clara Ewalt, of the School of Education, Western Reserve University, Cleveland, the newly elected president of the Journalism Association of Ohio Schools, named five members of the Association to serve on a Standardization Committee. The aims were twofold: First, to make a study of the status of high-school journalism, and, second, to formulate a course of study which would serve as an aid and guidepost to all Ohio teachers of journalism. During the first year several studies were made.

Myra L. McCoy, a member of our committee, placed at our disposal a survey made for the National Association of Journalism Advisers showing the status of high-school journalism in the forty-eight states. All but four states replied to the questionnaires which she used. Only nine of the states reporting indicated that colleges recognized high-school journalism for entrance credit. It is clear that two years ago, when the information was obtained, less than a third of the states had induced their colleges and universities to accept journalism for entrance credit. Judging from the report, and assuming that the states not reporting did not have such courses, only 17 per cent of the states had state courses of study in high-school journalism.

The committee used a similar method to learn to what extent high school–journalism credit is accepted for entrance credit by the colleges and universities in Ohio. It is evident from the answered questionnaires that high-school journalism is generally accepted by Ohio colleges and universities, 80 per cent so recognizing it. Only one school recommended changes in the present method of instruction.

A third questionnaire was sent to all public, private, and parochial high schools in city districts, and exempted-village districts in Ohio, and all county superintendents. Of the 56 high schools returning the forms, 36, 64 per cent, include journalism in their curriculums. Twenty counties, all reporting, do not include journalism in their curriculums of the rural and village high school. It is interesting to note that 81 per cent of the schools answering give full English credit for journalism.

[1] Edward Lee McClain High School, Greenfield.

During the second year, under the direction of Edward R. Johnson, president of the Journalism Association of Ohio Schools, we have concentrated on the second objective, namely, the course of study. Seven projects were assigned and reports are now available:

Project 1, worked out by Hazel L. Koppenhoefer and the writer, contains suggestions to Ohio high schools for preparing a course of study in journalism which will fit the needs of the local school.

Project 2, an outline of a one-semester and a two-semester course of study, has been made by Clara Ewalt after minute study of all available courses of study, and much reading and study.

Project 3, a complete development of an instructional unit, devoted to "The News Story" and "The Editorial" have been completed by Mary Perkins and Mr. Johnson.

Project 4, staff organization for each type of high-school publication, newspapers, handbooks, magazines, and yearbooks, has been completed by Mrs. Ruth Samson on the basis of a comprehensive questionnaire.

Project 5, a review of thirteen journalism texts with a bibliography, containing 128 titles, has been compiled by Miss McCoy and Mr. Getzloe.

Project 6, developed by George G. Starr, is devoted to floor plans for classrooms and publication staff rooms, with suggestions for equipment.

Project 7, which comprised preparation of specific objectives for junior and senior high-school publications, was completed by W. B. Bliss. He has included the newspaper, handbook, magazine, and annual.

Building the Journalism Curriculum

By CLARA C. EWALT[2]

Space does not permit us to trace the history of the three periods in the study of newspaper writing and editing in Ohio secondary schools, showing the reason for its inclusion in the curriculum. We are today on the threshold of the fourth stage. It is time to mold our subject to conform to the best learning procedures. The work of planning a continuous and progressive course of study by which to give students those experiences needed to accomplish certain ends has progressed much farther in the elementary grades than in the secondary schools, it is maintained.

The National Council of Teachers of English is now constructing a curriculum in English from the kindergarten through the graduate school. It is believed that this curriculum will suggest a thorough and orderly approach even to the teaching of the writing of poetry. Teaching how to write poetry might, for instance, consist of finding

[2] Western Reserve University.

the emotional experience of the pupil, finding the appeal to the senses that produced it, finding whether the pupil has words to express this appeal, and setting up units to produce what is needed.

Can teachers of newswriting get a suggestion here as to approach? Is it possible that they will find some orderly method of training a "feature eye"?

Certain available studies may have great value as aids in the making of a course of study in journalism. In 1925 the National Council of Teachers of English made an investigation of the place and function of English in American life, finishing a "market analysis," an investigation as to how well the commodity which the school has been turning out is meeting the needs of the public. As a basis, the Committee of which John Mantle Clapp was chairman tried to "find out what are the demands upon the adult American today with respect to his use of language and what are the difficulties which he experiences."

There is in this report a mass of human-interest material. One person answering the questionnaire says, "The greatest trouble I have is handling unreasonable people, talking to them diplomatically when I feel like handing them a wallop sometimes." Another says, "I experience difficulty in asking questions that will bring out all the desired information. Important points are overlooked." Still another answers thus: "It is difficult to get people to talk, to inspire them with confidence necessary to tell me what I want." A fourth replies, "I cannot turn the conversation to give companions an opening." Another tells us, "I fail to keep in mind the things my hearers are interested in. I keep in mind those things I am interested in." Still another declares, "I talk too much."

The foregoing certainly shows us a field in which we can work more definitely if we not only realize the need but are willing to study how we may best work in it. Some of the deficiencies have a strangely familiar sound. In looking for a palliative, one thinks instantly of the directions of a teacher of newswriting to new reporters: "Ask specific questions," "Know what you want to find out and ask the question that will get it," "Come to the point," "Don't talk too much." In this field of adapting English to life needs, then, may lie our greatest opportunity. The study also illustrates how we may gather suggestions by attention to findings in allied fields of education.

In making our course of study we should next apply knowledge of modern principles of education to our own field. Such application causes us to ask ourselves certain questions: Are our eyes on the pupil, not on the paper? Is he acquiring any real ideas in the larger sense that will apply in making up his attitude toward that mighty social force,

the public press? Is he getting power of judgment which will serve him not only in crises in his own life but will help him to sane conclusions as regards his own life in relation to that of the group? Is he finding in the newspaper course a place where he may be led to interpret with some degree of wisdom the seething life about him? Is he getting the opportunity to judge, to choose? Are his activities guided to an educational end, since it is not enough that he be merely active? It is not sufficient that the teacher be able to answer "yes" to the foregoing questions. He must consciously weave the principles implied in these questions into the fabric of every learning unit.

Next, that all may be set down in order, we must look for help in building our course of study to the men trained in curriculum building. First, we must formulate our general objectives. Then, the work should be set up in units. This sort of thing for news-writing has as yet nowhere been done. Specific objectives of each unit must be set down. Then we must construct each unit. Provision must be made for mastery. We must select learning equipment and supplies.

There should be suggestive lists of optional activities, graded lists of optional topics and problems for class discussion, stimulating accounts of methods of organizing recreational interests and of educational uses of assemblies—in a word, the selection and integration of a tremendous wealth of available material.

Implications

By ZONA GALE[3]

Two rivers flow toward Portage, Wisconsin, and succeed in meeting, save for a mile's distance. Between the Fox, flowing northward, and the Wisconsin, flowing toward the south, this mile became the portage across which, in Astor fur-trading days, the Indians and the French, including Joliet and Père Marquette, carried their canoes on their heads. Now a government canal connects the two rivers, and the water spirits of the two rivers find themselves of one race. And over the little town, of an expectant early morning or of a tiptoe noon, one catches a clear horn from launch or from motor boat, signaling to the lock-master to open the locks and to let the waters meet.

It is that signal which gives one pause. For they do not make it with a whistle or a horn. All the small river craft carry a conch

[3] Portage, Wisconsin.

shell. Knocking about the bottom of the boat the conch shell will lie, and on its opened end will be blown the blast, monotonous and silvery. One wonders where they find these shells, for one recollects them in one's childhood as inhabiting parlor floors exclusively, and one does not know how they escaped into boats. But there they lie; there they are lifted and sounded. And the latency is this: that not to one in many of those who are boating, and who signal by the shell, and not to one in many of those who from the shore hear that sweet metallic summons, is it known that the custom echoes the life and habits of a god of Greek mythology, of Triton, whose custom it was to rise from the waves of the loud-sounding sea, and blow his wreathed horn.

It is related that a visitor to the Cornish coast noted the evening routine of the mussel-gatherers, who, when the tide begins to come in, rise, cup mouth in hands, and shout a warning up-coast, to the other mussel-gatherers. And that shrill and warning cry consists of one word, the word "Aeger," shouted and repeated up those rocky ways. The visitor asked one of these mussel-gatherers why he cried that word, and received the expressionless reply that the tide was coming in. Yes, but why did he cry out that word? The man did not know. No mussel-gatherer knew. The stranger, being curious, sought out the word and found it to be old Celtic for "water-god."

Mr. Lewis Browne in *This Believing World* instances the primitive belief that at death the released spirit became hostile to the beloved ones left on earth; so, if the members of his family were black, they painted their bodies white, and if they were white, they painted their bodies black, so that they might be invisible to those inimical spirits of the dead. Thus our most elegant mourning gown, or stationery, or that slight black arm band are survivals in us, having white bodies, of the days when white bodies were painted black for protection from the dead.

I remember seeing in my childhood an illustration of a "heathen idol," which a class was told was a hideous monster, because it had many hands and many faces. But the comment of a Brahman was, "Ah, yes, the all-seeing one, the all-powerful one, represented with the many hands and eyes."

One might multiply these implications, as Frazier does in *The Golden Bough*. Implications to which few attend, standing mutely, as they do, deeply among our accepted interpretations, among our habits and conventions; but the romance, the true interpretation of any habit, of any convention, lies in this faint inner significance for which few have memory or attention. It is to the discovery of this implication in history and in biography that we owe the new history,

the new biography, begun in our time. We name this now the humanizing of biography, of history, of knowledge, but this means the discovery of implications long nonchalantly regarded, if regarded at all.

The neglected implications of daily human living, when at last these are observed, move us most. There is a house where sits all day by a window a woman in the eighties, saying:

"There goes Blank. That's the second time she has been downtown today."

"There goes Blank. She'd better take an umbrella. That's her best suit."

"Look at him. Got a tin pail. Must be going for buttermilk. I wonder what his wife is going to make."

"Look at her. Going pell-mell downtown. There she goes back. Likely she forgot her sample."

This goes on by the hour; her family is frankly bored. "What," they say, "makes mother do that all day?" But one member of the family was pierced at last by the reason that mother did so. Here was a woman whose life had been filled with action and event, who had been accustomed to participate in all that went on about her. Now in late life, old and ill, she was no longer able to play her part. This window occupation was her manner of co-operating still, of pretending to some little rôle of participation. Instead of a garrulous onlooker, she was thus divined to be a tragic figure, the immemorial being of life and action fallen upon its days of idleness.

One sees a woman of advanced years enter a café a moment before her companion. The waiters are obviously surprised to see the older woman enter alone; she has that strange hesitation and misdirection which attacks the aged. They seat her, and their concern is not deference, but a compassion, which she must feel, without ever having grown accustomed to feeling. For as soon as she is joined by her companion, a young woman in the thirties who gives the order, the older woman begins to say: "And have the plates hot—have them very hot. And have them make my tea in a hot pot—have them heat the pot well before they pour in the hot water. And when they poach my egg, don't let them have the water boiling . . ." and so on. The waiter is amused, the companion is annoyed, and neither understands that the old lady, helped and pitied and set aside, is building up a defense of importance. If one were writing about her, the old lady whom the waiters and the companion saw would be a boring and stupid figure, but all the time there would be the other old lady, trying to recapture a position forever lost to her, a tragic and eternal figure. A youngish man enters a restaurant for breakfast and asks for a grapefruit. "Don't cut it," he says. "Bring

it to me whole." A few moments later he is heard accusing excitedly: "You have cut the grapefruit. I told you to bring it to me whole. Take it back. Bring it to me as God made it." An authentic fancy perhaps, on his part, but the one who wrote about him as merely irritable would miss the man. Once, only Balzac and his kind would have seen the little figure laboriously building up for his own enjoyment that sense of his own consequence; but now the new psychology has exposed the writer's divination, and anyone at any table may read that grapefruit instance for what it is—and not to despise, but to understand, to see a little deeper into the nature of the being.

In *Show Boat* Edna Ferber sets a sentence which lit for me a forgotten and misinterpreted girl of my school days. To this young woman everything was a crisis. The loss of a book, failure to keep an appointment, to receive a telephone message, to mail a letter became a crisis, shrilly described. One used to be amused by it, then impatient. Edna Ferber's character is asked whether such a one, being ill, had a nurse, and, given in Mississippi days when such attendance was rare, the reply runs: "Of course. She has too strong a sense of the dramatic not to have a nurse when she is ill." So I saw at last what was the matter with Maude, of the incessantly manufactured crises.

If you write about any of these people as they probably seem to the family, to the onlooker, you have automata. Boatman, mussel-gatherer, mourner, and "heathen idol"; old woman at the window, old woman and young man in the café, woman with a nurse, girl emphasizing every trifle, teacher or parent exercising the romance of authority, all these, being merely recorded, are no more than surfaces. Any one of these interpreted, his actions touched with their own secret relationships, becomes at once a figure of another importance, a figure on altogether another scale of significance.

The unexpressed is of immeasurably greater value than the expressed. Not only has the human being a more vital import than the aspect which he presents to us, which already we know if we know anything of the race, but we are in danger of missing him altogether if somebody does not interpret even the aspect with which we think that we are "familiar." Once, only the Balzacs could do this—and then we thought that they wrote of unique instances. Now the new psychology can make Balzacs of observation of us all. All that we lack is expression!

This marks an immense advance in the treatment of fiction material. It is not less than the discovery of one of the three great secrets. The secret of the urge to write at all is inviolable; the secret of style is, after all, the mystery of the clothing of a flower; but the

secret of the understanding of human beings is now something in which all the world may share. A dismaying number of people are, by this broad door, already entered upon fiction writing. They not unnaturally feel this magic to be enough. It is not enough, but its revelation is doing its great bit toward the ostracism from literature of machine-made characters.

In the inevitable reaction of literature upon life we thus proceed to enrich life by undivined implications. A child looks out the window and says: "There comes my snow," and we see the arrogant individualism of childhood. Playing up to this individualism, a mother says: "See the man, making a path for Maizie," and hears Maizie say: "Man making a path for all peoples," and the mother sees the dawn of group consciousness in the child. Little Peggy asks: "Why should you be good, anyway?"—and hears something about growth, or even design, and cries vigorously: "Is that the reason? Well, people don't know that. I'm going to tell people" and with a far look calculates: "I could tell a hundred," and there is in the small face an evangelical fire. Little Lucile is said to laugh at silly things, and defends herself: "I say my feet go back and forth from my skirt and they looked so funny," and you discern in the child an ability to isolate the familiar and to seize on the humor of the hackneyed. These implications make all the difference between the open book and the closed covers of a personality.

It is a commonplace that in the best stories the humor lies in the implication, as in that shortest ghost story ever written, of the two meeting in the picture gallery of a haunted house. The first comer asked: "Aren't you afraid of the ghost?" The newcomer exclaimed: "No! I don't believe in ghosts." Whereupon the other observed: "Oh, don't you?"—and vanished. It is a commonplace that in the most dramatic moments of a play the implication carries all. Great drama is great implication. It seems certain that in implication lies all acute understanding of the human scene, all fine characterization of its figures. The line between great fiction and little fiction lies in the implication as detected or as undetected by the writer.

Supremacy in importance among recent tendencies in fiction goes therefore to that now generally conditioning the new fiction; namely, the isolating and interpreting of the material between the lines.

Development of Social Responsibility

By ROSWELL C. PUCKETT[1]

FIGURES FROM HARVARD UNIVERSITY which have been given some publicity recently show that of those graduates who failed, sixty-five per cent did so because they were unable to get along with people; that is, the school taught them enough subject-matter but neglected the problem of personal relationships. There is then a need for adjustment, and because of this need extra-curricular activities are receiving more and more attention. They lend themselves to the development of the idea of co-operation and to a sense of responsibility to the group better than regular classroom subjects.

Unfortunately, too many times when extra-curricular activities are mentioned people think in terms of entertainment. The well-developed system of extra-curricular activities is much more than that. Any activity can be made to function as an educational force if it is organized with definite educational objectives in mind. The difficulty arises in getting teachers to see that there may be worth-while values in a school carnival or a class dance.

How can one really teach co-operation and a sense of social responsibility in the average classroom? Such opportunities are almost negligible, and yet many activities are literally filled with possibilities of this kind. For instance, a girls' club wished to give a tea for the mothers. Before the idea was decided upon the members of the group had to discuss the various possibilities for afternoon and evening programs to which they might invite their mothers. The final agreement meant that some of the group had to accede to the wishes of the majority and give whole-hearted support to other persons' ideas. The selection of a social committee by the president meant careful personnel selection in order to secure girls who would be able to meet the responsibilities of the situation. Various girls had to assume responsibility for the writing of invitations, for the securing of dishes, for the purchase and preparation of sandwiches and tea, for decorations, for the reception and entertainment of guests, and for the expenses. The entire project was filled with various types of responsibilities similar to those found in life.

[1] Director of High Schools, Toledo public schools.

The school paper is another illustration of the development of genuine responsibility. The school paper must come out, the stories be in, the copy be in the hands of the printer, the proof be read, all at specified times.

The handling of finances for the various activities is another field which is rich in possibilities in developing responsibility on the part of high-school students. Keeping exact accounts of receipts and expenditures and issuing a complete monthly statement means worthwhile training for the treasurer of a school organization.

The development of student participation in the control of the school is another activity filled with possibilities for developing social responsibility. If the sponsor co-operates with the members of the student council, giving them advice without dictating, she helps them develop this social responsibility. The number of schools organized on this basis is increasing rapidly in an attempt to make real citizens of the students here and now, instead of preparing them for something in the future. Only by training students to think carefully when they select their own leaders and by educating them to the fact that they must obey their leaders after selecting them can we hope to develop a feeling of social responsibility on the part of the individuals.

Social Inequalities in the Junior High School

By M. C. SCHINNERER[2]

AN IMPORTANT FUNCTION of junior high-school education is the social development of its pupils. The psychology of individual differences has brought to our attention the presence of great differences among the individuals of this group. Our efforts, in the main, have been focused upon the treatment of the existent mental differences. Equally demanding of our consideration, however, are the wide differences in the social intelligence of our pupils.

Case differences are apparent all about us, and we minister to them. Large group differences, however, particularly those existing between the sexes, have not gained the attention and consideration which they merit. The average boy is two years behind the average girl in social development during the junior high-school years. From two to four times as many boys as girls receive failing marks in their junior high-school subjects, the ratio varying from semester to semester, and among the subjects. I believe that there is a connection between the discrepancies in marks received by boys and girls and the

[2] Thomas Jefferson Junior High School, Cleveland.

differences in their social development. Probably these discrepancies would be considerably reduced if teachers would entirely divorce accomplishment in the particular subject from the social graces and the behavior of the pupils. Objective tests have helped. Even with a refinement of the instruments for measuring results on which to base marks, I believe there would still be a difference. Boys are not so interested in getting social approval as are girls.

In the treatment of these individual and type social differences, the extra-curricular field offers more possibilities than does the core curriculum. The latter offers principally social studies, English, and physical training as elements in the solution. Social studies offer some help mainly through the objective of emphasizing the social responsibility of the individual for the welfare of the entire group and the consequent happiness to himself. English is important because it develops the ability to use the mother tongue freely, easily, correctly, and with a choice of words to meet the situation, thereby aiding the individual in social adaptability. English, however, must be differentiated to accomplish this. Physical training offers possibilities because it segregates pupils on the basis of sex.

In the extra-curricular field great possibilities are present. The program, however, is not a panacea. If the school assembly is to function in the socialization program, emphasis must be placed on pupil participation rather than the direct activity of the principal, the faculty members, or outside speakers. The goal for participants is not brilliant accomplishment. Large groups must participate in programs so varied in nature as to make possible the utilization of a wide variety of talent and development. Likewise in the program of dramatics, the percentage of pupils participating is a better criterion for measuring the contribution of the activity than is the perfection attained in the productions. So it is in all of the extra-curricular activities. It is the pupil who counts. In any junior high school where the shop projects are flawless, or the art work is perfect, or the newspaper contains no errors, or the assembly program is well-nigh a professional performance, it is probable that the well-rounded development of the pupils has been relegated to a position secondary in importance to the finished projects.

The home-room teacher occupies the key position in the social development of the pupils. If she knows her pupils well and is acquainted fully with the activities of the school, she can guide her pupils into the activities which are most needed for their development.

The problem presented by the social differences between boys and girls and the coincident differences in their achievement in junior high school is large enough to challenge the best thought and con-

sideration of all of us, but we have done little about it up to the present time. All about us are demands for retrenchment in the school program. The social responsibility of education must not be limited to include only the three R's. The well-rounded development of our youth includes infinitely more. We must constantly maintain this wider need in the consciousness of our adult citizenry.

The Junior High-School Curriculum of Greatest Social Value

By FRANKLIN BOBBITT[3]

In our social and economic system we leave most types of human service to private enterprise. This applies to such fundamental services as those that supply food, clothing, shelter, fuel, transportation, medical care, and the like. It is our national belief that everything possible should be left to private enterprise; and that no services should be provided by the government which can be provided by private agencies.

Education is one of the indispensable services which was in the hands of private schools until the last century or two. The plan has been abandoned since it did not, and apparently cannot, do effective work educating the entire population. The human urge for education is far less than the urge for food, clothing, and shelter. For this reason, were education left only to the private schools, a large proportion of the children would have no proper educational opportunity.

Enlightenment is indispensable for a civilization operated by free and self-governing men and women. The government, therefore, has had to step in and take charge of the service in order to get it properly done. Financial support is enforced by the police power of the state, and attendance is enforced upon threat of fine and imprisonment because of the imperative character of the educational need.

An emergency agency provided by the government is justifiable only when it provides a bulwark of protection against threatening dangers. The army and the navy, for example, are maintained by the government because of the threat of invasion. Health departments, public hospitals, and agencies of sanitation are maintained by the government because of the threat of disease. Life-saving and forest-protection agencies are warding off threatened evils. So the public schools are established and maintained at great expense for warding off threatening dangers.

[3] University of Chicago.

In discovering the social function of the public school, a first question must be, What are the dangers which threaten the nation that are so serious as to call for huge expenditures upon education, and for enforcement by threat of fine and imprisonment? The nature of the dangers will show the kind of education needed. We wish to refer to two or three of these dangers and to point out the educational program necessary for meeting them.

The greatest national danger is that of confused social management of the groups, agencies, and institutions which constitute our interdependent society. In division of labor, we have created a vast co-operative enterprise which gives services without which civilization could not exist, and each of the special agencies in this enterprise breaks up into a multitude of working groups.

The last two or three years particularly have shown us that the parts of this vast social enterprise are delicately interdependent, each agency being dependent upon every other. We have seen how easy it is for this vast mechanism to be deranged. With some further unbalancing, the whole co-operative enterprise might go down as a mass of social wreckage. The threat of irretrievable calamity is genuine. It is to be prevented only through wisdom in the social management of the agencies, institutions, groups, and classes which constitute our vast co-operative enterprise.

The enterprise is operated and, apparently, controlled by the entirety of the population. In exercising this control there are four important things which men and women should do: First, all persons should keep themselves fully enlightened relative to those individual and family needs required for carrying on high-grade civilized living. Second, out of their knowledge of needs, each man and woman should make effective demands upon each type of service agency. The impelling public demand makes clear to the agency its responsibility and determines the type of service which it will give. Third, each man and woman, the beneficiaries of the services, is to evaluate the offerings of the agencies in order to find those that are satisfactory and to avoid those that are unsatisfactory. Fourth, on the basis of their enlightened evaluations, men and women will accept only good services and will pay the necessary prices. By the exercise of these four functions, the members of society can build up and make strong those agencies which give good service; and they can weaken and eliminate those agencies which give poor service. Let us be more specific. In the control of the agencies that supply food, for example, if individuals maintain enlightenment relative to needed food ingredients, sanitary qualities, amounts, and variety, their valuations and desires will be shaped by their knowledge. Effective desire for those

things constitutes the demand. With knowledge of needs and desire, they are prepared to evaluate the offerings of groceries and markets and to discover the particular brands, articles, sales places, and the like, which are meeting with their demands and giving satisfactory service. In buying the brands which they demand, they build up the factories and stores which supply those articles; in rejecting certain brands, they reject the factories and stores which are supplying that sort. In this way citizens of the community control the agencies and keep them giving good service at reasonable prices.

For this control to be effective, one condition is indispensable: men and women must be enlightened and informed relative to their needs, the qualities of the offerings, and the justice of the prices. Social control results only from the operation of intelligence.

This plan is self-government. It is direct control of the agencies by those who are receiving the services. It is control of one's affairs by one's self. This is the only kind of self-government that is genuine. When control is turned over to somebody else, whether dictators or elected politicians, it is no longer self-government.

This method of direct control of service agencies by intelligent persons applies to all of the agencies of private enterprise, by far the larger number. If they are properly supervised and controlled by an enlightened public, the major portion of our vast co-operative enterprise will be well managed.

Besides the usual agencies of private enterprise, however, we can refer to three other kinds: First, there are monopoly agencies, usually denominated public utilities, that are partially controlled by the government, rather than directly by enlightened demand and patronage. These, however, are controlled indirectly by the same sort of enlightened demand. Because of the monopoly situation, the citizens have to act co-operatively through their government in enforcing their demands.

Second, there are agencies supplied by the government itself, such as public libraries, public hospitals, or public schools. These agencies appear because of sense of need and public demand. They require the same sort of evaluation, acceptance of good service and rejection of bad service, as any other agency.

Third, the political or governmental agencies supply a special kind of control service. As with the other agencies, the citizen should be enlightened as to the needs of social control. He must evaluate the control service given by the agency and the justice of the costs, and he will accept the control service which is good and reject that which is poor.

The kinds of intellectual functioning involved in a proper control of the governmental agency are therefore the same as those employed in the control of any other sort of social agency. It is, however, peculiar in one important respect. The governmental agency is for the use of the citizens in effecting proper control of all other services, agencies, groups, that constitute the entire co-operative enterprise. Rightly to be enlightened relative to the functions of the government, then, one must first be enlightened relative to all the agencies and services that are to be controlled by that government.

Without general enlightenment of all the population relative to all of these things, there can be no proper social control. Without enlightenment they cannot desire or demand the proper things. Without proper demand, they cannot evaluate the things that are presented, and therefore can be imposed upon. They cannot know proper qualities or proper prices. They cannot select the good and reject the bad. They simply take things indiscriminately as exploited by self-interest. An ignorant population is a prey to parasitism. The social agencies and groups overreach each other for the sake of the spoils without regard to the general social well-being. There is a break-up of democracy into militant minority groups, each intent upon exploiting an ignorant society in its own interest. There is a failure of statesmanlike leadership of the general social whole with a view to the general well-being. An ignorant population is a gullible population, easily deceived by false representation. Instead of the agencies of society being those of service, they become those of exploitation. In such a disordered society, there is confusion of responsibility and people are hazy as to duties and rights. Injustice and maladjustment are omnipresent. The criminal elements have their opportunity. Racketeering comes into its own. It is obvious that with an unenlightened population, we are headed for social confusion, demoralization, decline, and ultimate collapse of our social machinery.

The seriousness of the danger justifies the establishment and maintenance of emergency institutions for the dissemination of enlightenment. It is action for the national defense.

The task of the school is to help the young people to see and to understand the nature of the agencies, the character of human needs to be served by them, the standards to be employed in evaluating their services and their costs, their relation to society and to each other, and the needs of each agency if it is to give proper service.

It is not our task to develop within the pupils any complete understanding of the agencies. This cannot be done. Our task is to guide the growth of such understanding as is possible.

The school should begin to cultivate this understanding even in the kindergarten. It should be expanded further during the elementary school, and extended still further during the junior high school, senior high school, and the college. The growth in understanding that we can get under way during these first two decades of life should then be continued by the adult during his fifty years of responsible citizenship.

Our task is not to teach a definite body of facts relative to the agencies, since these facts change from week to week and year to year. What we need to do is to get a mode of intellectual living under way. There needs to be a continuous viewing of the agencies, directly in current observation, and indirectly in pictures. Especially continuous should be the reading of newspapers, magazines, current books, bulletins, and reports. Full and continuous, also, through all the years of growth, should be discussion and problem-solving.

The agencies can be viewed in many ways. They can be taken as "units" of work, and each agency studied as a unit; each unit can, then, be viewed in local survey, analyzed as to its organization and social relationships, studied historically, as it has grown up from its simple beginnings, and geographically, as it exists in diverse forms in different portions of the country and the world. The reading of a good history shows, at one time, the growth of all of the agencies and their present status in the country. The program can be furthered by properly chosen biographical and travel readings and selected literature.

Let us enlighten all we can; we never can do enough. Our task is to do what we can, with faith that, in spite of human frailty, we can accomplish a reasonably effective enlightenment. How much of the time of the junior high school should be devoted to this particular responsibility? Probably not less than half of the program time.

A second grave danger to be guarded against by education is technical inefficiency in the discharge of responsibilities involving complex thought. In addition to the consumer activities and matters of citizenship already referred to, we have in mind such matters as health care, physical living, family life, bringing up children, unspecialized work about the home, and the specialized labor of one's vocation.

Practical work is done upon two levels. The first is the level of thought, and the second that of practical execution directed by that thought. The thought is the crucial thing. It involves understanding, valuations, attitudes, plans, decisions, and intentions.

The thought-level of health activities calls for a good understand-

ing of substances, the things treated in chemistry; of physical forces such as heat, light, and electro-magnetic vibration; bacteriological matters; of biology for intellectual perspective and evaluation; of human anatomy and physiology for the structures and functions that are to be looked after; of a common-sense psychology because of the effects of mental states upon the human organism; and of social agencies and relationships in their bearing on individual or community health. For dealing with these things, one must carry on the quantitative thinking of applied arithmetic. All of these matters, mostly of natural science, are needed by all persons. The understanding of all of them should be growing during the junior high-school years.

The unspecialized practical home labors of men and women call for some understanding of matters chemical and physical; of insect, plant, and animal life; of the characteristics of good design; and of quantitative thinking. These are things needed by all persons who would operate or participate in the operation of a home.

In family life and in the upbringing of children, there is need of well-grounded scientific understanding: a knowledge of biology and heredity in general, and of the human organism in particular; of human nature in its constitution and tendencies to behavior or, in other words, human psychology of childhood and of adulthood; of human physiology as the foundation for any proper understanding of the mental life; and of the education of children. These phases of science are needed by all persons who participate in family life and in the upbringing of children. They are needed likewise for getting on with persons in society in general.

The enlightenment necessary for the citizenship and consumer activities, referred to earlier, calls for evaluations of materials and processes involving numerous phases of natural science. The practical activities in the aggregate call for most phases of natural science for everybody, but there are other reasons for the science. There is need, for example, of intellectual balance and perspective in a world of infinite complexity and confusion; of the wide and well-proportioned vision which sees reality as far as the human mind can carry. This demands the wider vision outward into space given by geography and astronomy; the vision that sees deeply into things, as for example into the atom, into the nature of forces, or into the nature of the human spirit; a vision that sees backward into the past as in astronomy, geology, ethnology, and history; and such vision forward into the future as science can provide.

The task of the school, it appears, is to awaken in all persons an interest in all of the fundamental aspects and portions of natural

reality. The task is to get pupils to view these realities as continuously and as abundantly as practicable, and in ways that are effective for the slow growth of understanding.

As with the social realities, our task is not to graft on to the pupils' minds a ready-made understanding of things as printed in textbooks. It is rather to help the pupils to the experience of clear seeing with the expectation that understanding will slowly grow up out of long intellectual experience with the natural realities.

We cannot expect anybody at any age to understand anything completely, but from kindergarten to college, the viewing of natural reality can be carried on for its own sake, and for guidance of practical activities. The continuity of intellectual functioning will result in the slow and sound growth of the needed understanding. The junior high school should guide this growth during one of its stages.

This varied science understanding is the need of all men and women. The science fields are numerous and wide. The awakening of interest and the growth of fullness of understanding will call for a large amount of time, perhaps at least a quarter of the program time. Nobody knows for certain.

In connection with both of the emergency responsibilities which we have discussed, there are certain component activities which are indispensable and which require educational attention. We refer to certain techniques involved in thought activities: in reading, writing, and spelling, in the use of a good vocabulary and proper sentence structure, in facility in English expression, and in quantitative thinking, mostly arithmetic. These require a good deal of attention in the elementary school. Thereafter, mastery of the techniques is probably to be accomplished mainly through abundant use of them. Beyond the elementary school, they probably will not call for any large amount of program time. By this we mean that in junior and senior high schools, the techniques of the English language and of the needed applied mathematics can mainly be mastered through the current and supervised use of these matters, in carrying on the two programs which lead to social and to science understanding, with remedial teaching where this needs supplementation.

We can then say that *literacy* is an emergency need calling for special time on the program in the elementary school; but from the beginning of the junior high school, there seems to be need of no great amount of program time. Hence, time that has hitherto been allotted in overgenerous measure to English and mathematics in junior and senior high schools can be diminished.

Of the techniques of literacy, we must note that foreign language is one of them. This is a kind of literacy which was much needed

five hundred years ago by a few professions when Latin was the language of learning. It is also a needed aspect of the literacy of European countries because of their proximity to each other. It is not, however, an element of literacy which is much needed by the population of our country. While a few persons in our country will use foreign languages, the vast majority will never do so, and there is no reason why they should do so. Hence, foreign languages do not constitute one of those urgent necessities that call for the exercise of the police power in raising funds and compelling individuals to attend schools to take the training. Foreign language scarcely constitutes an emergency need. If one wants it let him buy it; but there is little reason why the state should exercise its police power to supply it.

Drawing is another technique of expression sometimes looked upon as one of the necessities. It is good play for little children, but except for a few highly specialized vocations, drawing is not a form of expression that is to be taken seriously in junior or senior high school. Of other forms of technique such as charcoal, water, and oil sketching, pottery, poster-making, and the like, neither the well-being of the country nor the perpetuity of human institutions is dependent upon them. They do not constitute emergency needs.

Thus far the educational needs of imperative character to which we have referred have been mainly intellectual. There is, however, the other level of outward or practical behavior in which the young people need practice for sufficient skill. Most of this behavior will take place outside the school; but there are certain things that call for preliminary practice in the school. Of such activities we would mention first those that look to the upbuilding of the physique, such as the plays, games, and sports of physical education. This is at the same time socializing education. Such training when wisely managed seems to be a necessary portion of education for physical health, for mental health, and for a properly poised personality.

Practical activities of a second needed type are those unspecialized ones of the home which we have already mentioned as necessities. The strictly vocational activities belong in this group, but they can scarcely enter into the junior high-school program. They belong in the specialized vocational classes and schools.

A fourth kind of practical activities is that of human association. Individuals must adjust their activities to those of others in family and community life, in their play and in their work. Long and varied experience in making these social adjustments seem to be an indispensable portion of education. They are specially needed for the healthy growth of the personality.

These associative activities, however, are a component part of the entire life of the school and enter into the pupil activities in group surveys, field trips, group projects, discussion, problem-solving, laboratory experimentation, shop work, and the extra-curricular activities. They call for only a moderate amount of separate program time.

While this association of the young people is a genuine emergency need of such magnitude as to justify the careful attention of the school, yet a high degree of skill in some of the associative activities appears not to be necessary. There seems to be no need, for example, of a great amount of teaching for skill in tennis, basketball, football, dancing, music, dramatics, orchestra, and the like. The pupils will get as good social training with only moderate skill of execution as from a high degree of skill; probably more.

Now having enumerated the things of such exigency as to warrant the use of the police power, the question arises, How shall we distribute the program time? Nobody knows. A conservative estimate devotes about half of the junior high-school time to the development of an understanding of the social world. In such a program there would be much of the science, the techniques of literacy, English language, and practical associative activities as components of the program. A further estimate devotes about a quarter of the school's time to the development of an understanding of the world of natural reality, the natural sciences, with their practical applications.

We should then conclude that the remaining one-quarter of the program of the junior high school would have to be made to cover the remaining and less imperative matters. Our time has been too short for us to present much of the evidence for these estimates.

Can the actually needed junior high-school program be made less expensive than at present? There is no reason to think so. The evidence points in quite the reverse direction. The growing complexity of society calls for corresponding increase in the complexity of education. It calls for more diversified and expensive equipment and for teachers of greatly improved professional qualifications. These call for added costs. Whether the number of pupils per teacher can be so increased as to offset this cost cannot yet be known.

We cannot afford to lower the quality of education. It is far from good enough at present. The national well-being demands that we improve it, not impair it. Such improvement is an emergency need. The educational unpreparedness of our population for grappling with current problems proves that the simple education of the past has been insufficient. It must be improved, for the schools are the first line of the national defense.

The Teacher's Daily Preparation

By RUTH BRISTOL[1]

TEACHERS ON THE WHOLE ARE CONSCIENTIOUS, eager to do their work well. The importance of that work it is impossible to exaggerate. If they are to impress the public with the social significance of education, they must leave no stone unturned in the sincerity, effort, and judgment they devote to the constant improvement of schools. They are all anxious to do their best to make the school years of every child of the utmost benefit to him. In all forms of work where progress is desired, the first thing to do is to eliminate waste effort by finding out just what kinds of work will accomplish the best results. Teachers are learning more every day about how to improve teaching. These improvements demand change in the things they do.

The problem the teacher has to face in deciding what kinds of preparation and planning she needs to do in her out-of-school hours is one of the most difficult. This is particularly so when the time for preparation is limited. Careful study by all of us is needed on this problem, because in the number of hours the teacher has at her command it is almost impossible to do all of the things she needs to do. In teaching, as most other worthy enterprises, there is no easy, royal road to success. Although teachers may obtain stimulation and growth in their ideas by discussing their problems with each other and by visiting other schools, the final and absolute necessity is the most thorough and careful planning and daily preparation for work.

The successful teacher must, above everything, be able to provoke intellectual curiosities and a genuine desire to carry on worthy activities. This ability seems for a few born teachers to be a gift of the gods, but most of them have to plan and work for their success. What are the characteristics in great teachers that inspire? They are intensely alive; they have a natural interest in this great world and the people who live in it; they have a spontaneous optimism that makes life's challenge seem worth taking. The best way to bring richer, fuller living to others is to live fully ourselves. Teachers, as a group, need to play more. Golf, horseback riding, tennis, skating, and walk-

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ing should have their places in their recreation. There must be that balance of play, of rest, and of happy living outside the classroom that brings one back the next morning glad to be alive and glad to have an opportunity to promote happy, worthy living in a group of eager boys and girls.

What has been said would seem to indicate that play means a song and a dance, whereas mental as well as physical refreshment is required. The teacher, as one of the most important mediums for the spread of culture, should experience the broadening and beautiful things of life. Travel, music, the museums, art galleries, and the best books should be making their regular contributions, not only to add to the wealth of one's own life, but because one can pass so much of it on to others. One of the strongest arguments for maintaining teachers' salaries at as high a level as possible is that teachers cannot make the contribution to the education of children that should be expected of them unless they are having daily contact with the great and beautiful. Such contact costs money.

The next demand on after-school hours should be time for reflection. Mr. Seabury says that to live normally individuals need "pools of silence." Ten minutes of silence and thought would frequently save us much time. Instead we attempt to think on the run; and good thinking is not done on the run. Proper preparation, in the estimation of the writer, demands a period of quiet thinking, allowing the imagination to play around such matters as the interests of the children; possible new activities; books or other intellectual stimuli; a possible excursion; a traveler, a musician, or an artist who might be interested in talking to the class; ways of increasing Tom's or Mary's interest and consequent effort; or a new problem that might provoke curiosity and profitable work. The teacher who spends even a small amount of time thus will be amply repaid. All individuals differ in their ways of working. Some find that their best ideas come during such times of reflection; the imagination should be allowed time to make its contribution to planning.

Classrooms are not interesting enough as places in which to be and to work. There are not enough pictures, objects, books, animals, seeds and plants in different stages of growth, puppet theaters, blocks, miniature trains, boats, airplanes, things to dress up in, places to do large painting, clay, paper of all kinds, paint, and projects in the process of development. One of the most difficult things to do is to organize all of these things so that they present an orderly appearance.

At Ann Arbor this winter, in an effort to increase the interest and educational value of our classrooms, the attempt has been made to

increase those things likely to provoke curiosity in science. The kindergarten has a large science corner. The boys and girls have cut up laths and made a white picket fence to surround this corner. Inside the fence is a king snake four feet long and five inches in girth at his widest about whom we have all learned much. When Queen came to stay with us (the children call her Queen because she is a female king snake), the writer knew almost nothing about snakes and was decidedly unwilling to touch one. In the few weeks Queen has been a member of the school family, however, all sorts of interesting details have been learned. Now the tiniest kindergarten baby goes up to Queen, picks her up, and exhibits her proudly to visitors.

In this kindergarten besides Queen there are two garden snakes, one of which recently shed its skin and came sliding out with its fresh green stripes. There is also a salamander, a baby alligator from Florida, some frogs, six little turtles and two big ones, a charming little bird, a pair of guinea pigs with their little family, a pair of rabbits, a bowl of gay goldfish, and quite a number of growing things. Over the garden gate the children have made a trellis and are trying to make morning-glories climb. Then we have sweet potatoes growing, so that the children will see the root and top growth, sunflowers, and budding twigs of several kinds. In other parts of the building there are white mice, bunnies, and many growing things.

The teachers have been trying this year to get more and better books into our classrooms; provocative books; books that arouse curiosities, call for attention, and simply cannot be passed without examination. Teachers have gone to the teachers' professional library for them, to the adult libraries, and to the children's libraries. The children have brought books from home, and the teachers and children have earned money for new books. We have made school subscriptions for several children's magazines and for the Junior Literary Guild. All these books have been displayed in alluring ways.

The teachers have made a bargain with each other to go to the library after school at least once a week to hunt for books and pictures that will bring new life to their boys and girls. Books are arranged attractively, and objects associated with the subject of the book are placed with them; for example, on a table where books about boats are displayed a picture of a boat and a model of a ship may be arranged.

Many pictures are also needed. These pictures are arranged on tables or bookshelves in piles by subjects, because to display many of them at one time on the walls leads to an unattractive room that is overstimulating and disturbing to individual concentration.

Room appearance is just one more of the many things to which the teacher needs to give thought. A schoolroom should obey the same rules of arrangement, color, and interest that any other beautiful room obeys. If there are to be boys and girls, animals and growing things, books displayed with appropriate pictures and objects, then other elements of decoration and use must be put away behind cupboard doors and plain curtains. There must be plain spaces to rest the mind and eye. One object of beauty should be possible in each room, and that window box of glowing jonquils, that shining aquarium or gay fish bowl, that really lovely picture should be allowed to reign alone against a plain background that enhances its beauty.

This emphasis on details—more books, more pictures, more animals and growing things, more objects of interest and value—is given in order to show what vigorous efforts we need to make in order to bring about a thought- and work-provoking environment. Children in such surroundings have natural reason to ask questions, to investigate, to experiment, to read, to write, to spell, to paint, to model, and to know the pleasure that comes from intense and successful work.

Preparation for teaching does not demand the making of lesson assignments as it did a few years ago. It is more helpful for the children and the teacher to set up plans for the next day's work together. Instead, in her planning period, the teacher needs to give more time to thinking over the kinds of growth her children need and what she can do that will help bring these about.

In a fifth-grade class during the discussion period, a boy's question about a falling star provoked interest and curiosity in the relationship of the sun, moon, and earth. The teacher during the discussion that followed displayed rare ability in allowing children time to think and to talk. She supplied several pertinent bits of information and experience but did only her share of the talking as a member of the group and allowed the children to gain by their own thinking. She did not cut short the process in a vain hope that she could help the class through to an understanding of one properly logical piece of knowledge. She realized that they had all gained in understanding, and that curiosities had been aroused so that bit by bit they would build out their comprehension on future occasions.

In a consideration of the planning and preparation a teacher needs to make, there is one more item that needs attention if one is attempting to enumerate the kinds of preparation that are at present inadequately done. This phase of planning is that concerned with the necessity of preparing to meet the individual interests and needs of the children.

The modern teacher must learn to see and to help individuals. This seems to be one of her greatest stumblingblocks. She is afraid that her group will get out of hand, while she tries to help one person. A study of the situation in many classrooms, however, will show lamentable waste of time. It is possible for a group lesson to be begun, developed, and ended, while certain children do so nearly nothing that it is alarming. Obviously, we must learn to keep individuals profitably busy.

In an informal study of fourth-, fifth-, and sixth-grade children of high intelligence who had not been promoted because of failure in reading, it was found that those children, although failing on reading tests and doing conspicuously poor work in all reading classes, were succeeding in getting information from social-studies books and pleasure from reading other books. When they were summoned to a reading class their cheeks flushed, and they showed other nervous reactions. Reading away from a situation in which they had built up a negative attitude was a successful and pleasant process, but reading in class was painful.

At present work is being done with a group of third-grade children who have been failing in reading for four years. Twice they were not promoted because they could not read. The principal and teacher gave them two reading periods instead of one. Day after day they were given word drills, flash-card drill; day after day they sounded out words. At the end of four years they were reading first readers with painful earnestness. Have you ever had a doctor reverse the diagnosis that had been made of your physical difficulties and prescribe an opposite treatment? An opposite treatment seemed desirable in this case. The first thing that was done was to stop all reading classes as such. For a week there was no mention of reading, and no effort to make these children read was made. Everything was done to provoke them to genuine interests. Activities and problems in science and social studies were discovered on which these children were willing to put forth hard work. Contact with the parents was made so that they would fully co-operate in the treatment. The teacher and parents brought into the classroom the most delightful books they could find concerned with subject-matter suitable to the abilities of the boys and girls and likely to make a real appeal to them. When the bad associations were somewhat forgotten, the principal arranged some time alone with each of these children in an attempt to help them see that the skills demanded in reading were not too difficult for them. After building up a sympathetic relationship, the principal used an oral-reading test, a phonetic-abilities test, and

a vocabulary test to help locate their difficulties. One or two of these ten children now have no difficulty but the emotional one. They need no further help on reading, as reading. All they need is to be supplied with books and, if necessary, guided into problems in the solution of which they turn naturally to books. Others after being given a comparatively small amount of individual help see that the thing they have been fearing and running away from is really not too hard for them after all.

One other angle from which the teacher needs to study the individuals in her class should be mentioned. One of the most important adjustments all of us need to make is the adjustment necessary in order to make good as members of the group. The child needs to learn to get on happily and successfully in a group, as much as he needs to learn to think or to read and write. Group activities are essential in order that he will learn to do his part cheerfully and helpfully, as well as because they stimulate interests and problems, necessitate growth in language power, and help to develop a habit of looking at questions from all sides in an attempt to answer them. Teachers should be aware of the social inabilities of individuals in their groups and should help these persons learn to overcome their social mistakes.

The social studies may be so conducted as to make it possible for teachers to give more direct help to individuals at the places where they need help. Boys and girls from the kindergarten up should have projects on which they can work with great profit and with a relatively small amount of teacher's help. In fact, often the work will be more educative for the child if he learns to work on it quite independently. The fact that these pieces of important work are going on means that an entire group may be busy in thoroughly worthy ways, and the teacher may be helping one individual on his reading, another on his study habits, another on his writing, and still another on a book he is making.

To listen to so many recommendations within a short time may have a staggering effect. If so, it would be well to realize that the work and play here suggested will be spread out over hours, even weeks. Also one of the important things for all of us to think of is that the wholesome, well-integrated life, the life that includes refreshment, is the most worthy life. Early in this paper the statement was made that unless the teacher so refreshes herself daily that she can meet the spontaneity, enthusiasm, and eager curiosity of boys and girls with a like spontaneity, enthusiasm, and eager curiosity she fails to capitalize on one of the most vital forces that would make her work a success. We cannot afford to live without play and

repose. As to the large variety of duties here recommended, my experience has taught me that one gets large returns in comparatively small spaces of time. Ten minutes in the library will often bring one immediate help; one may leave with several poems, stories, and other items of value and interest. Sometimes good ideas for the next day jump at one while one is eating dinner or walking on a golf fairway.

It is true, there is not time enough. It is also true that this requires hard work, but at present there is much waste effort among teachers and dawdling among children. Let us do our best to eliminate both.

The subject of this convention is the social significance of education. We are all realizing that in these troublous times effort must be made to prove to the public that it is no economy to cut on school budgets. There seem to be two ways in which the social significance of education can be proved to the public. One way is to point out to it the evident effect that education is having in the development of productive and intelligent citizens. The other way is to make a renewed and more energetic attack on the work of improving our ways of doing things. There are only two absolute essentials to the learning process, namely, a good teacher and a child. In discussing this problem recently a friend said, "Perhaps there's only one essential, the child." Be that as it may, if the teacher makes her teaching as good as it can be made, the public of its own accord will come to the school and say, "Your work is good. No matter where else cuts are made we must not in any way jeopardize the work of the schools." It must be so good that parents see their individual children not only growing in their power to give attention to intellectual problems, but see them growing in independence, in self-control, in those qualities that make for success in group living, and in physical and emotional health. It is only a type of teacher preparation that is altogether more thorough and thoughtful that can possibly bring this about.

Social Growth in the Early School-Levels

By MARY M. REED[2]

THE THEME OF THIS EDUCATIONAL CONFERENCE, education as a social investment, is timely and pertinent to the problems of social life which are affecting the functions of educational institutions. Note that the theme does not say, "Are the schools a social investment?" but, "Is education a social investment?" To answer this question

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there would need to be an evaluation of activities in all community institutions which affect the social conduct of children. Every institution which takes the responsibility of providing a place for a child to live and work in thereby provides his opportunities for social growth. The child inherits whatever resources or liabilities these institutions make available for his learning.

Environments may provide experiences beneficial for the utilization of the child's capacities and interests, fruitful for the development of his own personal character; they also may make the child a useful contributor to his social group. On the other hand, environments may furnish experiences which stunt a child's growth and tend to make him a social imbecile and even perchance an obstacle to the progress of others in his social group.

It is obvious, then, that environments of children must be carefully scrutinized to see what kind of learning is taking place. It will be noted that certain features must be common to the landscape as a whole. There must be consistency in ideals that makes the learning of children consonant under varying environmental changes, and one institution must be responsible as the center for child guidance integrating the activities of all.

History shows that institutions have shifted leadership in the guidance of children as human society has passed and is passing constantly through revolutionary and evolutionary stages. In the early civilizations the tribe or the community as a whole dealt with the education of the young, handing down to them the elders' ways of behaving. Then for centuries the home became the chief center of social activities. It was here that the child attained his understanding of the industrial processes important for social living. Gradually simplicity of life with its few needs gave way to the rising complexity of an industrial society. Social life demanded new skills, and the organized school was created to assist the home, its chief function being the teaching of the three R's.

In our present civilization, many social forces have brought changes which make the home inadequate to assume expert leadership for children's understanding of their social world and for the development of social behavior necessary to make the world a more satisfactory place in which to live. Scientific inventions have taken many industrial activities out of the home and have mechanized others; increase in urban population has reduced the space formerly allowed for children's social activities in a home; the present social and political status of women affects the amount of time mothers wish to give to their children and the amount of time others find it possible to give to children. The education of young children in

its new sense has become a more and more complex problem, capable of being handled only by one who devotes her work to the study of child nature, to the study of the world in which the child must adjust or change, and to the planning of the environments for the child's best social learning in the light of his social maturity. It is obvious that there is need of expert leadership.

Society at present is pointing to the school as the institution which should integrate all the educational environments for the child's understanding of his social world and for the development of social behavior which will perpetuate the best and create new and better social patterns. The school must awaken to its new responsibilities as a child-guidance center through which the activities of different institutions become integrated. It is only as harmonious integration of the activities of life develop that harmoniously integrated children develop and become intelligent, contributing members of society.

What has the nursery school–kindergarten–primary department done to change its policy of isolation, which in many situations makes the school an entity, estranged from other social agencies? The position of the school reminds one of our national and international situation. For years each country has built up nationality, but social forces were inducing internationality. Here we are with a mind set of nationality and a social environment that demands internationality. Until our national-mindedness is exploded, progress is impeded.

The school and other community institutions are in much the same position. We cannot advance much farther in bettering conditions for children's social growth unless we recognize that all environments are interrelated as they affect children's learning, twenty-four hours a day, seven days a week, fifty-two weeks a year. The school is taking steps to break down the isolation tradition. There is a home-visiting program in action in many schools; Sunday schools are adopting school organization and methods; activities of children in the park are being put under the guidance of trained teachers; summer camps for children are being directed by educators.

In some of these activities the school has been forced to cooperate; in others the initiative is being taken by administrators and teachers. More straightforward leadership, however, is necessary, and a more clearly defined program needs to be set up. Many of the techniques of twenty-five years ago are not adequate to meet our present problems.

The activities of the nursery-school leaders show a movement in this direction. These leaders have probably gone farther because the

nursery school is not yet bound by an organization which is so definitely patterned "school." One activity that was carried on by the Nursery School–Kindergarten–First Grade Department at Teachers College will give an illustration of an attack on the problem. Greenwich House Settlement has been affiliated with Columbia University lately for research purposes. A committee from the department of sociology was appointed to direct one piece of research which was an inquiry into social and economic changes in the neighborhood of Greenwich House during the year 1930–31. In this settlement house a nursery school and a kindergarten for four-year-olds are maintained. The committee asked the co-operation of the Nursery School–Kindergarten–First Grade Department. We undertook as our first problem a study of the homes of the children attending the nursery school and kindergarten at Greenwich House in order to discover the function of the school.

Our procedure was first to make a survey of the school environment and the curriculum in action. Next, a questionnaire study was made of the homes of the children. The findings were tabulated to give a picture of the home conditions affecting each child's learning. Their findings pointed to an outstanding need; that is, leadership in a school center; first, to help parents provide as adequate an environment for their children as the home conditions will allow; second, to help parents and teachers to be consistent in the guidance of the child's social growth; and, third, to reorganize the nursery-school and kindergarten institution in the settlement into an institute for parents and children and to place leadership in the hands of the teachers and an educational administrator.

Now the immediate purpose of this questionnaire interview was not to change conditions in the home but to find out conditions. It was only on the initiative of the parents that any advice was given. The response of parents showed their keen interest to know and to co-operate for the good of their children.

This survey is by no means finished. The techniques to secure data were experimental. Next year we shall begin again. We shall study and try to evaluate more of the social institutions that are affecting the social learnings of this particular group of children. If we can devise techniques and obtain these data, we hope to be able more nearly to approach a plan for the guidance of a program for twenty-four hours a day. The leadership of the school in planning a program for children's social growth must consider all of the environments in which children live and learn. Education is only a partial investment if the school is the only one considered.

The information that parents have regarding the child must be shared with the school. Teachers need accurate knowledge about what the child's life has been in physical health and emotional adjustments. Parents need an interpretation of the aims and methods of the school and a more thorough and scientific knowledge of child development to fit them for their responsibility. They need to know that the atmosphere and conditions of the home are the primary determinants in the development of children especially during the early years.

Not only must the school co-operate with the home but, because children learn in whatever situations they happen to be, it has a responsibility to co-operate with the community at large. Children are having an increasing number of experiences in other institutions of the community, in parks, playgrounds, motion-picture theaters, clubs, churches, libraries, and museums. These activities widen the opportunity for the school but obligate it to co-operate and use its guiding influence. The school to be really effective should be the channel for bringing about both a wholesome family life and a rich community experience for the child.

A second characteristic of the educational program for the social growth of young children is to be found in the integrated curriculum which definitely aims to provide for the art of social living. Since the early years constitute a highly significant period in the socializing process, the teacher must be concerned about environments that are pertinent to the social maturity of the children in a group. She must be aware also of the nature of guidance which will produce growth in the knowledge, attitudes, and techniques of social living. Traditional curriculums have shown neglect in utilizing experiences of children on the level of their social maturity.

A survey of curriculums for young children shows a gradual change from those in which a definite learning of skills, knowledge, and appreciation was imposed on the teachers. In the more traditional school, "Work to master the three R's" was the objective. Sports, play, and the arts were more of a reward for work. Now there are educators who contend that social living is an art and that the art of living is the highest and greatest accomplishment of the human being. If social living is an art then our work must be an art. Music, fine arts, dramatic play, the sports cannot be an escape from or a reward for work but an integrated part of it. I followed a group of children at work after they had visited a post office at New York. The ideas expressed from these experiences involved all of the arts and skills of modern life. Some children went to books

to verify facts or get more information; some constructed a post office; others tried to put in tubes which would connect the two post offices so that they could shoot the mail by the principle of compressed air from Post Office No. 1 to Post Office No. 2; others painted. During the time this project was developing the children expressed themselves in verse; later they set the verse to music. Still later they organized their art forms and social- and physical-science ideas into a dramatic production. In all of the activities these children were learning to live together; they were getting understanding of a bigger social world by bringing a part of a formerly unknown and complex social environment into the more simple social environment of their school. One's work must be an art, not a drudgery to be gone through, if social growth is to proceed as a result of all of our activities.

In a recent educational meeting, I heard one speaker, an educator, put forth a theory which placed the arts in the position of an escape. She pictured men and women going through the hardships of the day and, then, in the evening, with their friends around them, in peace and comfort enjoying the arts together. Three speakers followed who spoke for the language arts, music arts, and the fine arts. There was no evidence of this educator's theory of art in their talks. They showed the subtlety of art as it might function in every activity of the day. An educational program for social growth must take into account that the arts are an integrated part of social activities and that the technique used in the manipulation of things and in relationships with people is the art of living if it produces beautiful living.

The most delicate stroke of the teacher in carrying out such a program will be in her subtle understanding of the social maturity of her children and in the discrimination she uses in guiding them through experiences, sometimes through first-hand experience, excursions for actual contacts or their own experimentation; sometimes through vicarious experiences, books, posters, discussions; sometimes through creative expression. The selecting and guiding of these experiences are teaching techniques, the discrimination and use of which makes teaching an art and a science.

School administrators, teachers, and even parents many times plan environments for the development of social traits which are beyond the intellectual and social maturity of children in the nursery school, kindergarten, and primary. In some courses of study, for example, "saluting the flag" is listed as the activity of the first grade to develop patriotism. This civic trait is usually interpreted to mean

loyalty to one's country, but a child's concept of his country is likely to be vague and limited and the words of the salutation to the flag are apt to be still more vague and incomprehensible. To be true to modern principles of education we must find ways to build the concept of loyalty or patriotism on the child's own social level in situations and through activities that have meanings to them.

Situations arise in the kindergarten and primary grades that may normally develop into "loyalty" with understanding and meaning. Day after day problems do arise in these groups where social standards or laws for the government of the group need to be made. It is out of this that loyalty to ideals of justice and fairness for all peoples may develop. To secure intelligent social growth neither verbalization nor symbolic activity about citizenship should be used unless it has meaning. When a child develops loyalty by engaging happily in social activities within his own comprehension on his own intellectual level, he is preparing the way to take part in increasingly larger and more complex situations.

When schools endeavor to develop desirable social traits, they sometimes set up environments which develop undesirable traits instead. For example, teachers often attempt to develop generosity by having children give to the poor at Thanksgiving and Christmas. In certain social groups this may develop snobbishness, insincerity, hypocrisy. Or again, children bring gifts which cost them no effort, being handed over to them by the parent and in turn passed over to the school without any real insight into the social need for giving or any genuine consideration for the recipient. When a school urges its members to bring gifts for the poor, some children are forced to give when the economic conditions of their own homes do not warrant such generosity. Their motives for giving, then, become merely a protection from being humiliated before the members of the group. It may be that out of such unwise teaching of the past we have helped develop a generation of Americans who are concerned with getting much, giving little, but caring about social justice hardly at all.

In planning for the reactions of children which make for the development of sincere, intelligent, and truthful social living we must provide situations in which each child's motive for action is on his own social level. Before creating an environment for the development of any social quality, we need to determine in what way this quality naturally operates in the lives of these immature citizens, what motives their social immaturity demands to develop this social quality, and whether the use of motives which appeal to them on an immature social level leads to the use of others on a higher social level.

The motives of a child's social behavior may be on different levels in different situations: a child may dress himself without fussing in the morning because of a threat from the parent; he may be prompt in arriving at school because he wishes the approval of the teacher; he may await his turn on the slide because of a law made by the group; he may put his play materials away at certain times in the day because he has an appreciation of order and beauty; and he may clean the floor on which he has spilled paint because he does not wish members of the next group of children coming to school to ruin their clothing. The environment should be planned so that the motives of children which influence their social behavior can be carefully studied and be constantly and consistently directed to higher levels.

In any institution, school, home, or community, the educational program for the development of social behavior should be considered in terms of growth. The beginning of the socializing process has its roots in the lowest age-level but fruition comes slowly. In each social group, on each age-level, teachers must determine how far on the social scale each child has climbed and must begin there, using the highest feasible motives to build specific reactions which prepare him for sincere participation in social living. Children cannot be guided toward one set of goals in the home, another set in the nursery school, another set when they reach elementary school, and still another set in the secondary school; hence, the ideas of the child as he goes from grade to grade should be better integrated and have more continuity; his sensitivity to people and things should be deeper; and his knowledge should stir him to more and higher types of activity.

Teachers and parents should be alert to the reality of children's social problems, to see in them situations in which social ideals have their beginnings, to utilize them for the functioning and growth of ideas, social habits, and social attitudes. The study of each child's capacities, interests, and habits of social usefulness should determine what is necessary in the social environment for the next step in growth, and these findings should lead to a social organization not so high as to make any child self-conscious or insincere and not so low as to keep him socially immature. The artistry of teaching whether in the home or in the school is in knowing how and when to enrich the social environment for each child proportionately for his capacity for growth that he may gain command of self, understand the conditions in which he is living, and increase his powers to meet his social problems effectively and sincerely.

The Attic Orators Look at Woman

By J. O. LOFBERG[1]

LITIGATION AT ATHENS was certainly a man's job. A woman could be party to a suit only through her official "patron," her husband, brother, father, or son. She was not even regarded as competent to appear in court as a witness. In spite of these restrictions, however, much of our information of how the "weaker, but deadlier" sex lived, or at least how typical men thought she should live, comes from the speeches of the orators.

The Periclean ideal is given in his famous Funeral Oration, quoted in the Second Book of Thucydides: "To a woman not to show more weakness than is natural to her sex is a great glory, and not to be talked of for good or evil among men." Just one hundred years later the orator Lycurgus describes the appearance of women about the streets of Athens during the excitement following the battle of Chaeronea in language that shows that the Periclean ideal was still held by some conservatives, perhaps by the majority of Athenians: "One could see at the doors of the houses, Athenian ladies crouching in terror, and asking 'Is he alive,' one for her husband, one for her father, one for her brothers, appearing in public—a behavior unworthy of themselves and their city."

This is by no means the only information that the orators supply us of woman and her part in the home. We find instances of women who were fully competent, in an emergency, to protect their interests by clever legal methods though not in the actual courtrooms, who could speak as fluently and as logically in public (before members of their families, of course) as any man, who spoke so eloquently of their misfortunes that they brought tears to the eyes of the listeners. There are other women who, married at the tender age of fifteen or thereabout, became competent housekeepers, under the guidance of their husbands, and were trusted with complete charge of the household.

Women of different mold conspired with blackmailers and pettifoggers to work in the interest of their sons and themselves; unscrupulous ones thought up clever devices to remove their unwanted husbands; and others of the "gold-digging" variety got well-to-do

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men under their control. We even find a young wife who was audacious enough to powder her face, though she was in mourning for her brother; we are told that this happened in spite of the fact that her husband tried to bring her up according to the best standards.

Other short scenes from the orators show us brief glimpses of home life: the wife who felt that her husband was not the "provider" that he should be, and did her best to drive him to litigation in the hope of profit; the wife who cross-examined her husband to see how he voted as juror in a notorious case that had just been settled. There is the little sketch of the impoverished gentlewoman who was forced to run a shop in the public square; like many others she had felt the pinch of poverty as the result of "the war," but her predicament was worse than that of most, for her husband had divorced her when he found that he could make a better match. Another orator told of the old, disillusioned mother who had only a few more years to live; she had hoped that her son would care for her and bury her when all was over, but she had found it impossible to trust him. To make sure that her funeral was properly conducted she had deposited a little money with a friend. He was to see that all was as it should be, but after all he was no relative. In spite of the inhumanity of her son, she decided to forgive him all, because as the orator says, "A mother is naturally most willing to tolerate even an injury at the hands of her children and counts little benefits as great gains because she assesses their behavior by affection rather than logic."

In the case of women, the Athenians undoubtedly invested but little in the way of formal education. They were doubtless often unlettered and unschooled from our point of view, but curiously enough they seem not unlike ourselves in spite of it all. Relatively few of the ladies who appear in the speeches of the orators could be said to belong to the "best families" of Athens; only rarely do they approximate the Periclean ideal. They are, by and large, more like the type that with us "make the headlines" in the morning papers.

Levels of Culture

By W. A. OLDFATHER[2]

THIS PAPER UNDERTAKES to compare along a few selected lines (omitting all such controversial questions as sex, liquor, religion, and economic exploitation) and mind and taste of the common man in Greek and Roman antiquity with that of his American counterpart

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today, in the hope that such contrasts may help to bring more vividly to our attention those phases of modern culture which still stand in need of betterment. This is, indeed, the most valuable contribution which can be made in the general program of "education as a social investment" by that enlightened study of the classics, "newly reborn," as Petrarch says, "and looking forward no less than backward"; since, in Schleiermacher's words: "For a man to take part in the control of matters of general public concern necessarily presupposes that he has himself lived deep in the history of the past. In order to construct, in any higher sense, the future out of the present, one must already have constructed the present out of the past."

The material used has been for the most part inscriptions and papyri. There exist now about half a million documents of all sorts, from a period of about one thousand years, absolutely trustworthy, because contemporary. These have not been selected or edited with any bias, but owe their survival, out of thousands of millions of similar records, to the fortuitous selection of the natural agencies of destruction. There is a sense, indeed, in which we may feel that we know the thought and feeling of the common man better in classical antiquity than in any other period of history, since no other culture has left so large a body of documentary material except that of modern times; in our own day the amount of similar matter is so prodigious that we can do nothing with it at all except through sampling and selection, and we have no guaranty that these are or can be free from all prejudgment.

The following general conclusions were reached:

The opinions of superior men about common men have to be almost wholly disregarded, for these superior men are often extremely severe on one another also, and occasionally, and with better grace, upon themselves. If, however, they are considered, then favorable judgments, which also exist in very considerable numbers, must likewise be taken into account.

Literary culture was far more widely diffused in antiquity than is commonly supposed.

Illiteracy was very rare, even among slaves, except among the Egyptian fellahin, and in the sixth century of our era (the beginning of the Dark Ages) among the Oriental clergy.

The ancients read much less than we do, but with far greater attentiveness, and became permanently possessed of a good deal of what they did read by memorizing it. Reading in itself is of little importance; the decisive matter is what one thinks about after laying a book down.

Ancient spelling and syntax were good as long as men wrote what

they spoke. When they talked one language and wrote another, of course the spoken language showed through at a great many points, just as it does today.

Business records were much briefer and far less conventionally formalized and verbose than ours. Ancient courts clearly concerned themselves only with the plain general intent and purpose recorded, and not at all with quibbles and evasions. Business also was not quite so businesslike as now, since the amenity of opening such documents with a greeting was very widely observed.

Wills showed none of the irrelevancies and eccentricities that too often disgrace such documents with us.

Private letters were brief, restrained, dignified, and to the point.

Book-writing was on a higher plane artistically.

Epitaphs were much the same then as now. The proportion of unnecessarily plain-spoken epitaphs was probably higher in antiquity; but the silly and chuckleheaded epitaph cannot be paralleled.

In books written by and for the common man exclusively, it might be observed that the oldest folk-book in Europe was that of the *Seven Wise Men*, and next to that in time, the Aesopic Fable. The substance of these books was eminently intellectual and their form artistic in comparison with the ballads and Mother Goose of our forbears, and the scenarios, comic strips, and *True Story* slush of our own day. The New Testament also was written mostly by such people as fishermen and customhouse officials (the one educated man among the authors being definitely an apostate from the scholarly tradition) for slaves, hucksters, and draymen, who met in little rooms over stores and in abandoned stone quarries, yet it reaches such an astonishingly high level of sincerity, meatiness, and energy that modern sermons are mainly mere expositions and dilutions of a phrase or so of the original; and the literary form has such essential beauty of thought and poetry as to triumph over even the fetters of the imperfectly controlled foreign language in which it was written. It is absurd to imagine its authors or its audience as lacking in any essential intelligence and good taste.

In conclusion: the common man in antiquity was much more disciplined, if not perhaps so original; he had better taste, if less spontaneity. He was aware of his limitations and had himself in hand. Again, since these are precisely the qualities in which the superior man of antiquity differs from the superior man today, we must conclude that Greek and Roman culture was a unity. It was not a thin veneer of aristocratic achievement over inert masses of slaves, and serfs, and brutalized rabble. The artists and savants were essentially only the common people, articulate and at their best.

Some Worthy Objectives for Mathematics

By PAUL C. RECKER[1]

In considering the social import of mathematics it is well to have a clear idea of the meaning of the two principal words involved, "social" and "mathematics." Mathematics is that branch of human knowledge which deals with exact spatial, serial, quantitative, and magnitudinal relationships; social refers to the mutual relationships and intercourse of individuals.

It will be noted that the field of mathematics is much broader than its concept in the public mind. There must be included in its realm, not only those fundamentals and processes which, by perhaps too great insistence upon their mastery, have earned the quite unmerited dislike of the public, but, also and especially, those applications commonly called practical mathematics: the quantitative laws of commerce, of economics, as well as of the sciences; the ratios, forms, and tempo upon which not only musical instruments but music as well is constructed; the spatial relations, ratios, and values which intimately underlie and determine the masterpieces of art; the rhythm and cadences of the poem; the shapely beauty of the starfish; the spiral of the snail, of the morning-glory, and of the celestial nebulae; indeed, when we once consider, where shall we place the ultimate bounds of this, the real mathematics?

These are the ideas which the teacher of mathematics must continually stress if he will rescue his subject from formalism and mediocrity and maintain it in a position the grandeur of which will constructively challenge and stimulate the interest of his pupils. When so considered it is evident that mathematics not only is not without social appeal, but fairly bristles with social contacts.

In dealing with equations, graphs, tabulations, charts, how easily the master teacher impresses upon his students not only the dependence of y upon x; the utter necessity for each to respond to the other, the responsibility, if you please, of both, which neither as individuals can escape, and the complete wreck of this universe should one be able to shirk or evade this responsibility; but also the dependence of man upon man, of each plant upon its neighbor, of each animal upon

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all other matter, animate or inanimate. This brings about a certain realization of the necessity for a more complete assumption of individual responsibility and a striving for personal reliability, the lack of which will just as certainly bring social chaos. The teacher with a vision of his social responsibilities can bring to his charges a realization of truth, and how it can be tested, weighed, and verified. The student can be shown by the equation the eternal truth that falsehood invariably brings its own reward. These and others of similar nature are truly worthy social objectives for secondary mathematics. To emphasize and capitalize these ideas must be the aim of the teacher, and if he is really a teacher of young men and women, not merely of mathematics, his success will be assured.

Protecting the Social Investment in Arithmetic

By CARMILLE HOLLEY[2]

AT THE PRESENT TIME WE FIND THAT we are not getting results in arithmetic. Professional literature is full of these complaints. At the Detroit meeting of the National Council of the Teachers of Mathematics in 1931, Raleigh Schorling reported that only 25 per cent of 636 sixth-grade pupils could add simple decimals, such as .09+4.38+6.20+1.57; that, in percentage, only 44 per cent of the twelfth-graders could find 120 per cent of 20, and only 19 per cent of the same group could find 2.3 per cent of 40. In this entire study he used 3,545 pupils from the fifth through the twelfth grades, and his findings show a lack of mastery in computation throughout. He says, "One of the crucial problems of the senior high school, though little is said about it, appears to be that of computation."[3]

Mr. H. C. Christofferson finds that "most of the errors in problem solving are computational in nature."[4] At Miami University the Freshman-Week tests showed that only 53 per cent of 1,063 college Freshmen could change eleven-thirteenths to a decimal and only 68 per cent could find the sum of six addends with four digits in each addend.

The ability to work these simple computational exercises would be approved by most of the advocates of "social usage content only" in arithmetic; yet the percentage of mastery is very low. Obviously

[2] Miami University.

[3] Quoted from a mimeographed outline of Dr. Schorling's study handed out at the Detroit meeting of the National Council of the Teachers of Mathematics in 1931.

[4] Christofferson, H. C. "College Freshmen and Problem Solving in Arithmetic," *Journal of Educational Research*, XXI (January, 1930), p. 20.

there are many factors contributing to this spectacular failure: poor teaching in all grades, the misapplication of John Dewey's philosophy of education in the primary field, lack of the right kind and amount of oral and written drill in the intermediate grades, neglect of opportunities to use arithmetic applications in algebra and geometry; but the factor which I wish to call to your attention is the contention of the social surveyors that the course of study should be built upon the present social usage only.

Back in 1918, G. M. Wilson made a study which he called *A Survey of the Social and Business Usage of Arithmetic.* The method used was the "school pupil survey method" by which the pupils in the upper grades reported the figuring actually done and the numbers actually used by their fathers and mothers every day for a period of two weeks. These reports were analyzed for the process used, the difficulty of the process, and the topic with which the problem dealt. This study, made twelve years ago, ushered in a series of like studies so that, in 1926, the same author was able to publish a small book entitled *What Arithmetic Shall We Teach?* which gave summaries of the 1918 study and many other studies made with this method, the "magazine and newspaper methods," the "questionnaire to business men method," and so forth.

It is questionable whether or not these survey methods are adequate (for instance, Wilson finds that housekeepers and merchants do not count, that farmers do not have problems dealing with automobiles nor automobile supplies, that only about .025 of one per cent, or about one-fortieth of one per cent of persons of all occupations have problems dealing with tobacco, that the second and third cases of percentage never occur;[5] yet the third case is obviously used in deciding how much any investor can afford to put into any investment if the investment will pay so much and he wishes to realize a certain percentage on it), but, even though they were adequate, a course of study built upon the social needs and uses only would be inadequate.

Suppose that the addition of $\frac{1}{2}+\frac{1}{4}$, of $\frac{1}{4}+\frac{1}{8}$, and of $\frac{1}{3}+\frac{1}{6}$ were justifiable from the point of view of social usage; if this simple skill of addition of fractions is to function when needed, there must be a great deal of practice on the more difficult addition, such as thirds+eighths, tenths+fifths, halves+thirds, thirds+fourths. This overlearning allows for the growth of the concepts of denominator and common denominator and also for the development of the two general principles: (1) only like things should be added, and (2) to add fractions with unlike denominators, change them each to equiva-

[5] Wilson, G. M. *What Arithmetic Shall We Teach?* pp. 13, 31, 33, 12.

lent fractions having like denominators; then add the numerators and write the sum over the common denominator. Then, when the process of forgetting begins, the more difficult will be forgotten, of course, but the child will have a better chance to remember the simpler, more useful cases, because he will have generalized and discovered more completely the principle involved and will have practiced enough to fix the bond more firmly.

In the teaching of fractions, in general, if the practice is cut down to the social-usage minimum, the teacher will lose an important means of rationalizing the decimal notation and the rules for multiplying and dividing by decimals.

Again, suppose that we do confine the study of addition, subtraction, multiplication, and division of decimals to United States money. As a nation, we are becoming increasingly "decimal minded," and the application of decimals to United States money only would curtail our progress along this line; also, it would hinder the development of a broader understanding of our number system as a decimal number system and of a decimal fraction as an extension of the property of place value in our number system.

Percentage has already been mentioned, but to return to it—we notice that the sociologists advocate the study of simple exercises. If we are justified in teaching 6 per cent of $150, we are also justified in teaching 62.5 per cent of 800, 4.3 per cent of $750, 133.3 per cent of 4,000, and even more difficult exercises to provide for the marginal learning necessary to take care of the growth of concepts and to allow for forgetting. The sociologists find that problems like the second and third just given never occur; yet the second case of percentage is used to a great extent in making comparisons. The newspaper articles dealing with the percentage of increase and decrease in unemployment, or in certain exports and imports, or in the gate receipts for college football games will be only vaguely understood by the reader who does not understand the second case of percentage. Again, judging how much to put into any given investment, if the income is known and the investor wishes to realize a certain percentage on his investment, is a constant use for the third case of percentage, and one which should be stressed more. Even though it were true that the second and third cases could not be justified on the grounds of social usage, the junior high-school pupil would gain a great deal by the presentation of the formula, an understanding of the three variables involved and their interdependence, and solution for any one of these variables when the other two are known.

Insight, therefore, into the social usage of arithmetic should be

gratefully accepted and should affect the course of study, but a course of study based upon social usage only is inadequate, because it does not provide for that margin of safety in learning which is necessary to allow for forgetting and to permit the growth of broad concepts.

Mathematics as an Interpreter

By W. S. SCHLAUCH[6]

SINCE THE OPENING OF THE MODERN ERA, the world has seen the reduction of vast regions of knowledge to formulation and predictability. In contrast with the primitive man, who imagined sickness to be caused by the presence of an evil spirit in the body of the patient and a tornado or earthquake the fitful and arbitrary visitation of an angry god, the modern man has acquired the habit of looking for relations of cause and effect. Thinkers with the help of mathematics have discovered that if certain factors operate certain other phenomena appear; and if the size and direction of the antecedent determining factors are known, a formulation of the resulting phenomena is possible. Thus, since the time of Galileo man has known that near the surface of the earth a body falling from rest will fall through a space S given by the formula

$$S = \tfrac{1}{2}gt^2$$

Formulas built up by scientists and mathematicians remain established until they fail to fit all of the observed phenomena. They are then modified to account for the observed discrepancies, and thus become more and more nearly exact descriptions of the order of succession in nature. Thus, by using the space-time-manifold assumptions of Einstein an amplified theory of gravitation has been evolved, which supplements and enlarges the Newtonian formulation.

Certain phenomena, however, because of their complexity and the impossibility of measuring all the determining factors involved, seemed to fall outside the reign of law. The individual event could not be foretold and was regarded as a fitful and arbitrary happening. But the nineteenth century saw this problem of chance reduced to order when a large number of such events is considered. Thus, if two dice are thrown the score may be anything between 2 and 12, but the various scores are not equally probable. In fact, if two dice are thrown 3,600 times, the result will be about as follows:

Scores	2	3	4	5	6	7	8	9	10	11	12
Frequency	100	200	300	400	500	600	500	400	300	200	100

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While in a trial of 3,600 throws the results will not exactly conform to these theoretical frequencies, it is surprising to find how closely the actual frequencies conform to these expected frequencies.

The occurrence of death has long been, and is even today by the uneducated, regarded as "an act of God," utterly fitful, arbitrary, and unpredictable. No one will deny that the time of the death of a healthy person of a given age is unpredictable. But, as a result of studies in the empirical probability of dying at each age, it is possible to predict within narrow limits of error how many persons of a large group will die at each age until the last survivor has disappeared from the earth. This gives us our Experience Table of Mortality, which is the basis of the most exactly conducted business in the world, life insurance. If the facts shown by the American Experience Table of

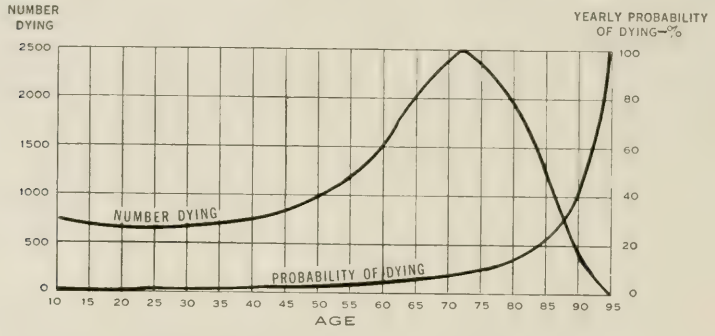

Fig. 1. American experience table of mortality.

Mortality are reduced to graphic form, we have a vivid picture of the occurrence of death among the masses of mankind.

The radix of the table whose graph is given in Figure 1 is 100,000; in it are recorded the life spans of 100,000 persons aged ten, traced through until the last one is dead. About 750 will die at age ten between their tenth and eleventh birthdays, about 1,000 of the group will die at age fifty, 2,505 will die at age seventy-three, and so on. The yearly probability curve should be read: at age ninety there is a 40–per cent chance that a person of that age will die, or out of a group of that age, about 40 per cent will die before age ninety-one is reached. At age seventy-five, there is a 10–per cent chance of dying during the year, and so on.

Now, the mathematics of empirical probability applied to the problem of death as shown in this graph presents us with the basis for some remarkable conclusions vitally important to all young people. They include: First, the normal age for death to occur is age seventy-

three. Ten years above and below this age will compass the great bulk of deaths of those living what may be called a normal span of life. This would indicate a considerable loss of physical power in these years. Retirement from active life would normally occur between sixty-five and seventy. Old-age requirements must be provided for in the productive period, between the ages of twenty-five and sixty-five for brain workers, and in a shorter period for industrial workers. Second, of those who reach age sixty-five, half will live eleven more years. This means that if a man reaches the retirement age, there is a 50–per cent chance that he will need to live on his savings or the income from his savings for at least eleven years. Everyone during his productive period is under the necessity of providing for his own support in this idle period. Third, while the probability of dying during the earlier years of life is small, from .7 per

TABLE I

FREQUENCY OF DEMAND FOR CERTAIN SIZES OF COLLARS IN A DISTRICT OF NEW YORK CITY

Size	Number	Percentage of Total	Size	Number	Percentage of Total
(1)	(2)	(3)	(1)	(2)	(3)
12	5	.2	15½	400	17.5
12½	18	.8	16	290	12.7
13	50	2.2	16½	150	6.6
13½	140	6.1	17	48	2.1
14	300	13.1	17½	15	.6
14½	390	17.1	Totals	2286	100.0
15	480	21.0			

cent to 1.8 per cent, it is always present. Every person gainfully employed should carry life insurance to protect his dependents in the case of his death. Policies should be taken out for protection, not for investment.

The theory of probability, with some of the elementary mathematics of insurance and life annuities, if given in our high schools and colleges, would clarify the thoughts of our young people on the subjects of thrift, risk, insurance, and old age. It would help in planning life as a whole.

Whenever the forces of nature or a group of such forces are engaged in the production of units of a particular kind, these units tend to assume a certain standard or modal size. More units of the modal size are produced than any other. Sizes near the modal size occur next in frequency, and as we depart in either direction from the modal size, the frequency with which units of these divergent sizes

occur grows less and less. The distribution is that of the well-known normal frequency curve or normal curve of error. The educator and the business man both need to know the mathematics of the normal frequency curve in analyzing the situations which they are called on to solve. Human abilities as well as heights of men, the lengths of their arms, and the sizes of the collars they wear are distributed according to the normal frequency curve. A survey of the frequency of demand for various sized collars recently was made in a certain neighborhood in New York, and the resulting distribution is summarized in Table I. The quarter-sizes formed a distinct table, being in much less demand than the half-sizes. If these data are graphed the frequency diagram pictured in Figure 2 results.

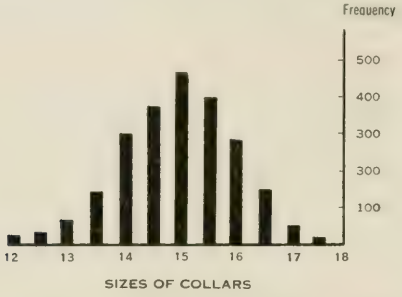

Fig. 2. Frequency diagram showing the demand for certain sized collars in one section of New York.

Such a survey taken from the sales slips of a haberdasher, when normalized, becomes the basis for determining the number of collars of each size which should be carried in stock. The business manager should know that the normalized frequency of the modal size is

$$y_0 = \frac{N}{\sigma\sqrt{2\pi}},$$

when

N = a given number of samples,

and when

σ = standard deviation of the group

$\frac{X}{\sigma}$ = the distance from the modal position,

that the frequencies of distances from the modal size are given in the equation

$$y = y_0 e^{-\frac{X^2}{2\sigma^2}}$$

Figure 2 should make it clear that the business statistician or manager

needs to know the concepts and mathematical formulas involved in the intelligent handling of statistics if he would be successful in adjusting his stock to the customers' demands.

Through a wide realm of business and investment calculations, including simple and compound interest, annuities, sinking funds, bond calculations, and the like, where definite agreements prevail, definite mathematical calculations and forecasts are possible. Great facility and depth of insight are gained from experience, economic knowledge, and mathematical ability. To illustrate the rôle of mathematics in this field let us consider a few simple illustrations. Even a high-school pupil finds no difficulty in expressing the simple interest relation as an equation:

$$i = prt$$

If this functional equation is fully interpreted a large section of simple interest theory will have been mastered. Thus, in the equation just given, if we substitute

$$r = .045$$

and

$$t = \frac{1}{360}, \text{ or 1 day},$$

we have

$$i = p \times \frac{9}{200} \times \frac{1}{360}$$

$$= \frac{p}{8{,}000}$$

Put into words, this means: To get one day's interest on any principal at 4½ per cent move the decimal point three places to the left in the principal and divide by 8. For example, one day's interest on $6,432 at 4½ per cent is

$$\$6.432 \div 8 = \$ .804$$

$$= \$ .80$$

It is easy to get the pupil to see if

$$\frac{n}{360} \text{ of a year} = \text{the time}$$

where

$$n = \text{the number of days},$$

that

$$i = p \times \frac{9}{200} \times \frac{n}{360}$$

is the relation for 4½ per cent. If we ask him what value of n when substituted in this expression will give as a result

$$i = \frac{p}{100},$$

a pupil who has had the proper algebraic training will have no trouble

in deciding that 80 is the necessary number. This gives

$$i = p \times \frac{9}{200} \times \frac{80}{360}$$

$$= \frac{p}{100}.$$

The rule resulting is: To get 80 days' interest at 4½ per cent move the decimal point two places to the left in the principal. Similarly, to get 8 days' interest move the decimal point three places to the left in the principal. Combining these results we may find bank discount at 4½ per cent thus:

To find the bank discount on a maturity value of $3,200 for 128 days at 4½ per cent:

80	———	$32.00
40	———	16.00
8	———	3.20
128	———	$51.20

Evidently we may solve the equation

$$i = prt$$

for any one of the quantities and derive a rule of operation. Thus, solving for p, we have:

$$p = \frac{i}{rt}$$

$$= \frac{i}{1rt}$$

This gives the rule: To find the principal which will yield a given interest (or bank discount) at a given rate for a given time, divide the given interest by the interest on 1, using the given rate and time.

Many problems arising in finance and business become extremely simple if mathematics is applied. For example, the compound amount of 1 for n periods at i per cent may be expressed:

$$S = (1+i)^n$$

If we let n equal a definite number, as 4, we have:

$$(1+i)^4 = 1+4i+6i^2+4i^3+i^4.$$

Now let

$i = .01$, the savings-bank rate per period,

and by substitution

$$1.01^4 = 1.04060401.$$

If a depositor had $250 credited on his card, and entered on his book when he last had interest recorded, at the time of his last deposit, and he now after a year presents his book for the record of interest, he should be able to see at once that the amount after recording interest will be

$$\$250 \times 1.04060401 = \$260.15$$

That is, the interest accrued at 4 per cent nominal compounded quarterly is $10.15, for the year.

Anyone who had mastered the theory of annuities should be able to work out life-savings plans. The formula for the final value of an ordinary annuity is

$$A_n = R \times \frac{(1+i)^n - 1}{i},$$

and can be derived by anyone who knows the theory of geometric progression as taught in elementary algebra. With this and a knowledge of compound-interest accrual, he should be able to plan ahead as follows: "I am twenty-five years of age, and can save $200 a year now. In five years I should be able to save $300 a year, and after that at least $400 a year. What can I do with these savings?" If the savings are invested at 4 per cent which can be obtained in savings banks, the following facts emerge: If he plans to retire at age sixty-five, the accumulated amounts of the savings of the two five-year periods and of the remaining thirty years will amount at age sixty-five to the following:

1. $A_1 = \$200 \times \frac{1.04^5 - 1}{.04} \times 1.04^{35} = \$\ 4{,}274.64$
2. $A_2 = 300 \times \frac{1.04^5 - 1}{.04} \times 1.04^{30} = \quad 5{,}270.19$
3. $A_3 = 400 \times \frac{1.04^{30} - 1}{.04} = \quad 22{,}433.97$

Total accrued at age sixty-five $31,978.80

If now, our planner has a little experience or knowledge of investments, he can purchase from a life-insurance company with these funds a life annuity at age sixty-five, which can be found as follows:

Cost of a life annuity of 1 per annum at age sixty-five,

$$a_{65} = \frac{N_{66}}{D_{65}} = \frac{43{,}343.08}{5{,}273.33} = 8.2192997$$

add 10 per cent for loading, and the gross cost becomes 9.0412297. Our funds will thus purchase an annual income for life of

$$\frac{\$31{,}978.80}{9.0412297} = \$3{,}537.00$$

and this amount will be paid by the company, no matter how long the annuitant lives. It is a perfect protection for old age.

As time passes, all things change; and, as all phenomena are interrelated, a change in one causes changes in others. In other words, the ways in which phenomena change together may be studied. Some

are more closely related to others, so that a change in one produces an appreciable and measurable change in another. We are thus able to study time series and correlation with the help of mathematics.

An example of such a time series is a study of the trend of the total number of registered passenger automobiles in the United States, made by the author, using the numbers reported for the years 1911 to 1925, inclusive. The equation of the line of trend was derived by using finite differences and least squares. After applying various tests, the conclusion was reached that the curve

$$y = ab^{c^x}$$

is best for the purpose, and by applying logarithms we have

$$\log y = \log a + c^x \log b.$$

By applying first differences, we obtain

$$\log y + \Delta \log y = \log a + c^{x+\Delta x} \log b.$$

Therefore,

$$\Delta \log y = \log b\,(c^{\Delta x} - 1)\,c^x$$

and therefore

$$\log \Delta \log y = x \log c + \log K,$$

where

$$K = \log b\,(c^{\Delta x} - 1).$$

This equation is linear in x and $\log \Delta \log y$, and we can thus determine $\log c$ and $\log K$ by applying the equations of condition to determine the line of least square deviations:

$$m \Sigma x^2 + c \Sigma x = \Sigma xy$$
$$m \Sigma x + nc = \Sigma y$$

where

$$y = \log \Delta \log y$$
$$c = \log K$$
$$x = x.$$

Applying this method to the data we found

$$c = .926792,$$

or

$$\log c = 9.966982 - 10$$
$$\log K = 9.267082$$
$$\log a = 4.973466$$

and

$$\log y = 4.973466 + .926792^x$$

from which the values of $\log y$ and therefore y could be calculated for the years 1911, 1912 . . . where 1911 is the first year and therefore x equals 1; for 1912 x equals 2; and so on.

The results plotted on arith-log paper give the graphs of Figure 3. The curved line at the bottom of the graph represents the equation just derived. The dots show the actual numbers of registered passenger automobiles for the years 1911 to 1930. It should be noted

that the actual numbers of 1925 only were known when the equation was derived. The curve has been produced to 1940, and it will be noticed that dots have been placed on the diagram to show the actual numbers from 1926 to 1930, inclusive. It can be seen that they fall close to the predicted numbers as given by the curve.

An example of an interpretation of economic phenomena is given by the study of the correlation of the supply and price of oats in the United States over a series of years. By using methods similar to that

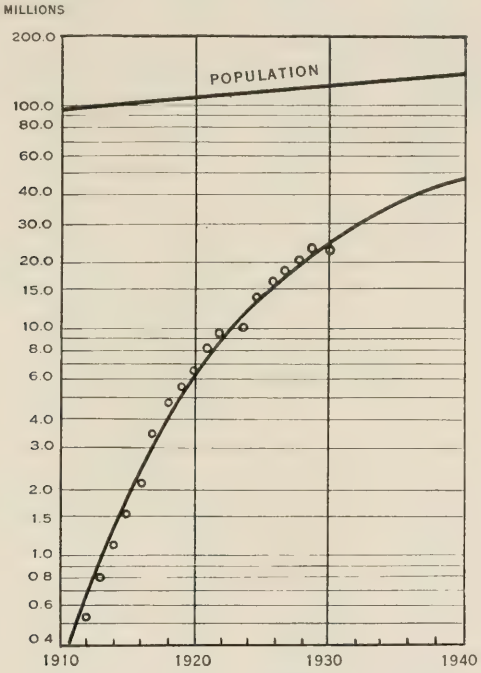

Fig. 3. Correlation of registered automobiles and population in the United States.

just described the heavy curve correlation line in Figure 4 was derived. The graph is interpreted thus: If the crop or production is 80 per cent of normal (what the trend of the crop calls for), the price is likely to be 130 per cent of normal. If production is 120 per cent of normal, the price is most likely to be 78 per cent of normal, and so on. The dotted lines on either side of the heavy line show the standard error of the estimate or the limits of deviation within which 68 per cent of the cases will fall.

All the factors of any civilization interact and are a complex

whole. Economic changes unlock social changes as well as political changes, and these in turn initiate additional economic changes. Let us consider, as an example, the status of women, marriage, and divorce. In any militant society, since fighting is the chief business, woman is always man's chattel, and so in ancient Rome the husband and father had the *patria potestas*, the power of life and death over wife and children. In the feudal centuries woman was also dependent, the property of her husband, and possessed few rights. Since she had no way of earning a living, she submitted perforce to the domination of the male head of the house.

The industrial revolution, which separated the worker from his tools and made him a wage-earner, gave him so little in real wages

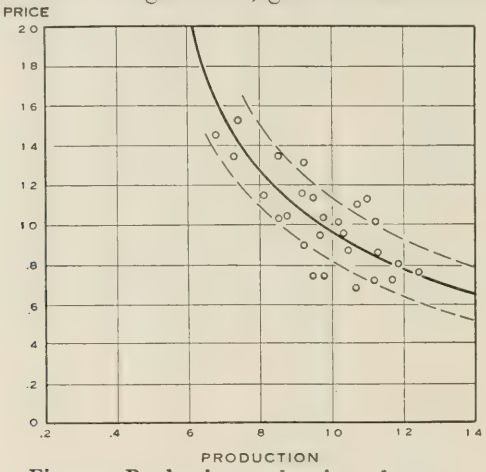

Fig. 4. Production and price of oats expressed as percentage of normal production.

that his wife and children were forced into the factory to eke out the family income. A woman can throw a lever to a cotton loom as well as a man can. With growing opportunities to earn money, women became less willing to submit to tyranny. When education became popularized in the nineteenth century, and it was discovered that women had brains, the self-respect of women increased, and they became more unwilling to submit to arbitrary domination. As more fields of employment were opened to them, the old ties of dependence that bound them to tyrannical husbands became weaker, and divorces began to multiply.

For a long time, in spite of growing economic independence, social and religious sanctions prevented a rapid spread of divorce. But gradually, the spread from individual to individual of the militant

TABLE II

Marriage Rates per 1,000 of the Population of the United States, 1887–1926[a]

Year	Number of Marriages per 1,000	Deviation from Average	Year	Number of Marriages per 1,000	Deviation from Average
(1)	(2)	(3)	(1)	(2)	(3)
1887	8.7	0.8	1901	9.6	0.1
1888	8.8	0.7	1902	9.8	0.3
1889	9.1	0.4	1903	10.1	0.6
1890	9.0	0.5	1904	9.9	0.4
1891	9.2	0.3	1905	10.0	0.5
1892	9.1	0.4	1906	10.5	1.0
1893	9.0	0.5	1916	10.7	1.2
1894	8.6	0.9	1922	10.3	0.8
1895	8.9	0.6	1923	11.0	1.4
1896	9.0	0.5	1924	10.5	1.0
1897	8.9	0.6	1925	10.3	0.8
1898	8.8	0.7	1926	10.3	0.8
1899	9.0	0.5	Average	9.5	0.6
1900	9.3	0.2			

[a] U. S. Department of Commerce. *Marriage and Divorce, 1929*, p. 16, Table 6.

$$\text{Coefficient of variation} = \frac{0.6}{9.5} = 0.06 \text{ approximately}$$

TABLE III

Divorce Rates per 1,000 of the Population of the United States, 1870–1926[a]

Year	Number of Divorces per 1,000	Deviation from Average	Year	Number of Divorces per 1,000	Deviation from Average
(1)	(2)	(3)	(1)	(2)	(3)
1870	0.28	0.76	1922	1.36	0.32
1880	0.39	0.65	1923	1.49	0.45
1890	0.53	0.51	1924	1.50	0.46
1900	0.73	0.31	1925	1.52	0.48
1906	0.84	0.20	1926	1.54	0.50
1916	1.73	0.09	Average	1.04	0.43

[a] U. S. Department of Commerce. *Marriage and Divorce, 1929*, p. 5, Table 3.

$$\text{Coefficient of variation} = \frac{0.43}{1.04} = 0.41 \text{ approximately}$$

ideas began to change the attitude of society on the subject of divorce. The forces which may hold a man and wife together are economic dependence, satisfaction or joy in the union, social sanctions, religious sanctions, and children. If the first disappears, and the second follows it, the remaining considerations will be strong or weak according to

the training and outlook of the parties concerned. Lately social scientists and students of childhood have raised the question whether two people who are thoroughly incompatible and who dislike each other are suited to rear children, and whether it is good for a child to grow up in an atmosphere of hatred and dissension such as would undoubtedly result therefrom.

Without any desire to enter the controversial fields of this question I propose to submit some facts and inferences, mathematically

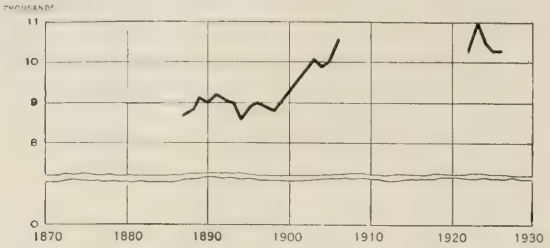

Fig. 5. Fluctuations of the marriage rate in the United States since 1870.

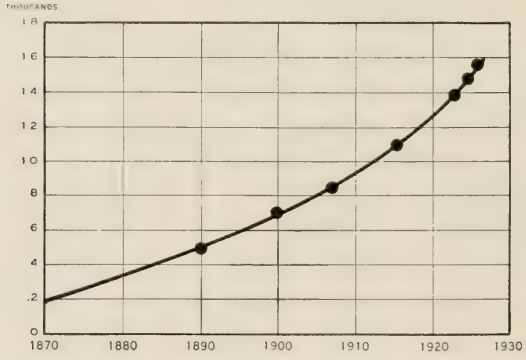

Fig. 6. Divorce-rate curve in the United States since 1870.

derived, as to where we are trending in the matter of divorce. The conclusions are based on a mathematical analysis of the facts and show the trends.

The data here given on marriage and divorce in the United States were taken from the bulletins on that subject published by the Department of Commerce. The study was made in 1926, and the data available since then enable us to test the accuracy of the predictions on marriage and divorce based on the trend lines derived up to 1929. Tables II and III show that the marriage rate is relatively

constant for the years covered, whereas the divorce rate has varied greatly in that period. By plotting the data of these tables it is easy to see in Figure 5 that the marriage rate fluctuates slightly, mainly with the business cycle; while the divorce-rate curve in Figure 6 strongly suggests a compound-interest curve. The marriage rate from 1887 to 1898 fluctuated about the rate of 9 per 1,000 of the population. The rapid economic expansion of the United States raised the rate from 1899 to 1906, so that it has since been fluctuating approximately about 10.5 per 1,000 of the population. By drawing a curve with a spline through as many points as possible on the divorce curve and then reading values of the rate from this curve, it is easily

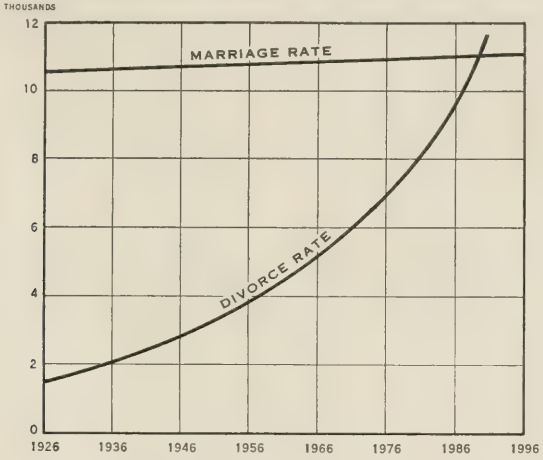

Fig. 7. Prediction curves of the marriage and divorce rates in the United States from 1926 to 1996.

seen by the method of finite differences that the best fitting curve is of the form

$$y = ab^x.$$

Applying the method of least squares, we find the best fitting equation of the curve is:

$$y = 0.2779 \times 1.03057^x$$

where

$x = 1$ for 1870,
$x = 11$ for 1880 etc.

If we assume a straight-line trend for the marriage rate and fit a straight line to the data of Table II by the method of least squares, using the data from 1907 and the following years, we arrive at the equation of trend, as follows:

$$y = 0.00534^x + 10.53$$

where x equals the number of years; that is, for 1907 x is 1, for 1908 x is 2, and so forth.

Note the interpretation revealed by these equations. If the present trends persist, by 1990 divorce will be as common as marriage. This means of course that by that time society will regard the marriage contract as it regards any other contract, and not as it is now theoretically regarded—indissoluble.

The date 1990 is arrived at by solving these equations as simultaneous for x. Figure 7 shows that the two graphs intersect for that year. As a test of the reliability of the equation for the trend of the divorce rate, it may be interesting to compare the predicted rate for the years 1927, 1928, and 1929, with the actual rates later reported by the Department of Commerce. Using the equation

$$y = 0.2779 \times 1.03057^{x}$$

where x represents 1 for 1870 and 58, 59, and 60, respectively, for 1927, 1928, and 1929, we get predicted rates for these years as follows: 1.59, 1.64, and 1.69. The rates actually realized were 1.62, 1.63, and 1.66. The agreement is close indeed.

Mathematical statistical methods enable us to measure the trends of such forces as ostentation and social racing in the population, the trend of the population toward urban centers, the struggle to escape the ranks of labor, the concentration of wealth into the hands of the few, the play of the business cycle with its periodic booms and slumps, and the resulting distress and inequitable distribution of physical well-being. It would be an excellent thing if every legislator, governor, congressman, and executive had a training in the economic, social-science, and mathematical methods of measuring trends and forces. We might then be spared the spectacle of the helpless blundering in the seats of power from which the world is suffering today. But this is too much to expect. Such mastery requires study, insight, and the courage to face the facts.

A Student Invests in Languages

By GIRDLER B. FITCH[1]

In an American play of some years ago a young, recently graduated nurse is asked whether she understands babies. She answers: "I ought to. I've dissected one." Students in the majority of our American schools are still taught on the assumption that learning to dissect a language is the normal means of learning the language, yet dissection, while often valuable, is fundamentally a process of death, not of life.

If the matter could be placed before the student as frankly as before an investor, it would be promptly settled. The student is such an investor, and we often forget that his average investment in a single course for a year, including his expenses in remaining in school and his loss of potential earning power during this time, frequently represents nearly a thousand dollars. In return for this, he wishes, almost invariably, for one of two things: to learn to read the language, or to learn to speak it. He is not paying to satisfy his curiosity as to what the linguistic phenomena of the language may be but to acquire a new skill. And skills are acquired by practice, not by analysis.

Can anyone doubt the choice that the normal student would make if it were explained to him in advance just what each method offers? On the one hand, he would be told: We will teach you to recognize the parts of a French sentence (or whatever language is involved). We will expect you to know the nomenclature of English grammar, though the majority of our schools no longer teach it. We will teach you to translate, though your reading will probably never get past the books that are already translated. You will acquire some knowledge of what the language looks like, a slowly increasing ability to translate, some knowledge of derivations. You will be deaf to poetry and the best prose, will be quite unable to converse or to read easily, and will not acquire the liberating experience of thinking in a new way.

On the other hand, as at Ohio State University, he would be told: We will teach you to speak French by having you speak it from the

[1] Ohio State University.

first day and to read it without translation, subject to check by questions in French and by dictation in which the French is repeated before writing. Reading comes first, but as classroom instruction is oral, you will be given French orally in class. English will be used when helpful but will not be permitted to interfere with your getting what you cannot otherwise: a maximum contact with the language itself, oral and written. You will be taught primarily to speak and read, especially to read, with analysis made secondary. Is this the return you wish on your investment? The student's usual answer, in both word and deed, will be that it is.

The Folk Song as *Realia*

By F. J. KRAMER[2]

THERE ARE AT LEAST THREE rather sharply defined stages in the development of modern-language teaching during the last hundred years. First, there is the grammar-translation period, our heritage from the traditional method of teaching Latin and Greek. Stressing reading, or better, translating ability above all else, the exponents of this old school sought to achieve their objective by a thorough and painful drill of grammar and syntax. During the closing years of the last century, however, this traditional procedure was attacked and gradually replaced, to a large extent, by the direct method with its shift of emphasis from grammar drill to oral speech, with its militant fight against translation, with its stand for inductive principles. That this new method had good results cannot be denied; that its aims, however, were too narrow was soon realized. For, as early as 1884, teachers in Europe and America began to feel that modern-language teaching could not have as its objective merely the acquisition of the foreign tongue. They felt, rather, that the real aim must be to impart to the student a knowledge of the foreign nation, its history and geography, its customs and peculiarities. This point of view has now become firmly fixed in the minds of our teachers and is responsible for our present practice; that is, we use the direct method but place considerable emphasis in the language class upon the history, geography, politics, and national characteristics of the foreign peoples. *Realia* (from the Latin *res*, thing) have been given an important place in modern-language teaching.

The introduction of *realia* has opened anew the question of what part songs are to play in our classes. Even at the present time great

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differences prevail both in theory and in practice. At the one extreme are those who regard singing as an inexcusable waste of time; at the other are those who in their enthusiasm are apt to encroach any day upon the domain of the music teacher. Doubtless there is a golden mean which will vary, as all good instruction should vary, with the abilities and facilities of teachers and students alike. Some rather definite principles, however, may be stated.

Songs should be treated as recreational rather than as informational material. Used to create lasting interests and to foster noble enjoyments, they become one of the most delightful and effective means at the disposal of the teacher for vitalizing the class when language drill tires and interest lags. Students in junior and in senior high schools alike love to sing; their pride and enthusiasm for singing in a foreign tongue will be evident from the first.

The question of how much of this type of work can profitably be done will best be settled by the individual teacher. Certainly a class cannot learn more than ten or twelve songs during the year without seriously encroaching upon time which should be devoted to other matters. No doubt, too much singing might easily destroy much of the novelty and pleasure for the students.

In presenting a new song, the teacher will do well to offer it first as a poem. When it is understood, and the pronunciation has been established, singing should follow immediately. The wise teacher will not be disturbed if the general result is not particularly harmonious or suitable for public presentation. Whole-hearted participation by all students should be the first objective.

Naturally, considerable care must be exercised in selecting songs for class use. Clearly the folk song should receive first consideration; for here the teacher will find expressed, as nowhere else, the moods and emotions, the national traits and peculiarities of the people. These songs will give the American student, more delightfully and more effectively than any other type of *realia*, an insight into the true spirit of his foreign neighbors. In words and music alike, he will find expressed the European's love for nature, his care-free joy in daily life, his optimism, and his faith in the future. He will feel the fears, joys, hopes, and aspirations of an old, and yet to him a new, civilization.

Then, too, the folk song, because it is sung by the great mass of people everywhere, will prove, in content and melody alike, surprisingly easy to learn. The vocabulary is extremely simple and recurrent; the most common idioms will be learned with ease; the rhyme and meter will fix the contents in the mind of the student; and he will leave his high-school days with at least a slight knowledge of some of the most delightful songs of all time.

The Foreign-Language Club

By RUSSELL P. JAMESON[3]

In recent educational movements the idea of socialization has become popular. Education is conceived, in large part, as socialization; that is, first, training the individual so that he may be fit and able to participate in the life of the community in which he finds himself; and, second, showing him how to relate himself usefully to that life by gradually extending his contacts and his knowledge until he adjusts himself to his environment with the least possible strain.

This is, in fact, what education has always been supposed to do, but there has been of late more emphasis upon the future environment of the pupil, and upon the more efficient development of his social qualities by preliminary practice of something like his future activities. Educational processes must be more closely related to life. It is this principle which accounts for the presence of modern languages in the curriculum.

Reflections as to method suggest that the line of demarcation between class work and club work is less distinct than it used to be. In comparing the socialized class and the club, one observes that the socialized recitation is based upon certain main principles: adequate motivation, utilization of the natural instincts of the pupils, development of a well-ordered plan, taking account of individual differences, participation of all pupils, acceptance by pupils of responsibility for a large share of the work and study, and expert supervision.

These principles serve equally well for the conduct of the language club, but the latter has special features of its own: It brings together representatives of the different classes, and so fosters the development of the larger group feeling. It furnishes a theater for the production of individual contributions, and so increases the interest of the students. It gives opportunity to present a larger variety of cultural materials. It gives ample scope for the exercise of special talent, and for the use of all the talent which is available in the department. It can be made to furnish a close approximation to actual life in the foreign country with its various social and intellectual elements, and to furnish a large amount of valuable training in using the language in a practical way. It may support and promote lectures, plays, movies, and entertainments of different kinds. It has excellent publicity value.

It would seem, then, that if the foreign language is used, every minute spent in club work means gains for the great objectives of

[3] Oberlin College.

language study. In order to get the most out of club work, it must have a serious purpose which may be made attractive by recreative and social features. There must be room for the club even in a crowded schedule, because it can be made to do certain things for all the students in the department which will relieve the congestion of class work. On the whole, the language club is a valuable socializing element both with regard to training the individual by doing and with regard to extending his intellectual and aesthetic contacts.

Modern Languages as a Social Investment

By ROBERT D. COLE[4]

Since the keynote of this entire Conference is "Education as a social investment," it is entirely natural that I should select as the topic for this discussion, "The Modern Foreign Languages as a Social Investment." This is true for at least two reasons. As an apostate from the ranks of modern foreign-language teachers to those of the educationalists, I could not be true to the dogma of my new faith if I were to neglect this opportunity to use the ritualistic formulas of "objectives," "outcomes," "analyses," "curriculum values," and so on. The topic I have chosen lends itself well to the use of such terms. In the second place, again as a comparatively new apostate, I believe firmly that it is upon the social values which can accrue from the study of these languages that our case as advocates of the modern languages must rest before the bar of public and professional opinion. I am granting without argument and as axiomatic that for some people their study is justified upon the grounds of their contribution to the more individualistic and avocational outcomes of instruction, but, in these days when the public is scrutinizing carefully every penny of expenditure, more is needed to convince the hard-headed taxpayer that a subject is justified than a description of the beauties of foreign literature and of the pleasure the cultured few obtain from foreign-language study. There is a clearly discernible tendency here, as abroad, to insist that each subject must justify its place in a publicly supported curriculum on the basis of a positive, clear-cut, and observable contribution to the public welfare.

This insistence upon the social aspect of education is by no means a new thing, though the present tendency toward exhaustive analysis of values is. From the Greek ideal of such a harmonious development

[4] University of North Dakota.

of the citizen that his physical, intellectual, aesthetic, and moral qualities might make of him a more worthy servant of the state, to our present philosophy that each individual should have equality of educational opportunity in order that our democratic government may survive and may be carried on ever more efficiently, we note consistent progress in better education for both sexes that society may be better served. The state, and I hardly need explain that I use the word in the sense of the people of the country as a whole rather than in the sense of an individual political unit thereof, is fast coming to be supreme in our educational thinking, and the individual counts primarily as an important yet subordinate cog in the greater machine.

In such a philosophy, education assumes the form, as the Inglis lecturer for 1930 described it, of a "long-term investment that the State may be a better place in which to live and a better place in which to make a living."[5] It would seem to follow, then, that the sort or sorts of education which must be provided, varied as they are and should be, must accord with this idea; and that to protect this investment and to insure dividends upon it the subject-matter in the curriculum should justify itself by its contribution to this general aim of education.

In the case of publicly supported education, this principle has been rather generally translated into action; sometimes wisely, often unwisely. State legislators, in their capacity as representatives of the people, are not at all hesitant in prescribing certain studies which the schools must teach. Nor have they been backward under the pressure of hysteria to forbid the teaching of certain subjects, as, for example, German during the World War, than which nothing could have been more stupid. Community likes and dislikes are often reflected in the courses of study offered in the schools, and there is enough visible evidence on many sides to convince the most doubting that the public that pays the school bills, or at least powerful groups within that public, is insisting more and more upon having much to say concerning what shall be taught in the schools which it supports. I am not arguing here as to whether this is desirable theory or practice; I am simply stating bald facts, facts which we as modern-language teachers must face if we wish our subject to have fair treatment.

It is evident also to the minds of many that education carried on under private auspices must not forget this social dividend which is expected of education. Institutions of learning, particularly on the college level, not controlled by public authorities nor supported by public funds are granted certain privileges by society over and beyond

[5] Briggs, T. H. *The Great Investment—Secondary Education in a Democracy*, p. 8.

those granted corporations which do not possess social characteristics and purposes. They are quite generally free from taxation, and while legally their freedom of action may be controlled in many respects by what is known as the police power of the state, in practice they are seldom disturbed. Yet a certain critical attitude toward them is occasionally noted which may later be translated into curtailing action if they do not accept the social responsibilities implied by their acceptance of social favors. Thus we see on all sides an increasing acceptance of the theory that education of all kinds is inherently social in nature.

It may seem from what I have said that the individual counts for nothing. This is not so. This theory recognizes the fact that as the individual becomes better trained, as his interests widen, as his abilities develop, he possesses greater potentialities for more efficient service to society. We do not hold up before ourselves today as an ideal the scholarly recluse who pursues knowledge for its own sake or for his own particular benefit, due exception being made of course for the pursuit of individual avocations. Learned pedantry is giving way to scholarly productiveness. Our wish is for highly trained, well-rounded individuals, true enough; not primarily that they themselves may profit therefrom but that those around them may benefit from their greater gifts.

If, then, we accept this social implication of education as a whole and of its constituent elements, and rapidly moving and almost imponderable circumstances force us to conform to it even though we may not wish to accept it, we must examine our modern-language offerings from this social point of view. Though distasteful to our sense of the eternal fitness of things, we must offer our wares under their most attractive guise; we must adopt the typically American business custom, transferred now even to the educational field, of advertising those aspects of our subject which the public desires. If we do not make a concerted effort to make known our really valuable offerings, we shall see our subject passed by in favor of goods of inferior quality.

How, then, can the study of modern languages contribute its share to education as a social investment? The time seems especially propitious to study this question intensively, minutely, dispassionately, and from all angles in order to discover and emphasize social values, for my prediction is that for the next few years at least society is going to realize that useful potentialities in the humanities have been overlooked in the recent greater emphasis upon the strictly scientific and utilitarian.

If we consider the content of our school and college curriculums, we can make a threefold classification of subjects, arbitrary it is true, and with a large disregard for overlapping. On one side, we find the strictly vocational and scientific studies which have as their main purpose better preparation for earning a living in our present industrial civilization and in changing that civilization by the application of science to its environmental aspects. This emphasis is almost purely utilitarian, and the number of students who have been interested in it is large. At the opposing pole, we find a group of studies which are essentially aesthetic and cultural, the fine arts, for example, studied principally because of individual interests and aptitude, and with little concern for the utilitarian. In between are numerous studies which may be either utilitarian or avocational, for example, the social studies, and in this group I would place the modern languages. I expect to see an increasing interest in and search for social values in this middle range of subjects in the attempt which society is bound to make to overcome the social lag which now exists between the mechanized, scientific, and industrial environment in which we live, and the social theories inherited from an earlier agrarian civilization by which we attempt to direct our living in this new sort of world. We who believe firmly in the potential contributions of modern languages in such a hastening of social theory must see to it that their possibilities are clearly understood and appreciated by those who are in a position to advise our boys and girls to study or not to study certain subjects. This is all the more important because circumstances have brought it about that many of these persons are relatively unfamiliar with the languages.

That we live in a new world as far as our environment is concerned is unquestioned. In some respects it is smaller than ever before, since we can talk around it, fly around it, and in a few years will be able to see around it. Paradoxically enough, because of the amazing achievements of applied biological and physical science, it is at the same time infinitely larger, since we know so much more about it. Our present industrial civilization, despite its mechanical comfort and efficiency, is not, however, an unmixed blessing. Man is an adaptable organism, fortunately, and as individuals we adjust ourselves with considerable rapidity to a changed physical environment. Indeed, we have to do so in order to survive. In some cases as groups of individuals, as a society, we make a similar adjustment. Witness how easily we have accustomed ourselves to the idea of rapid transportation, first by automobile and now by air; but unfortunately in other cases, mainly in connection with ideas, group concepts, traditions, mind sets, prejudices, whichever word you choose, as compared

with physical environment, as individuals and much more so as groups, we are loath to face the realities of our present-day situation. There is always a social lag between the actual physical conditions under which we are obliged to live and our group attitudes toward these conditions as expressed in group ways of thinking. The faster the changes in our environment, the greater the lag, the wider the gap between our inherited notions concerning things and an honest attempt to evolve new thories and new methods of group response to the new situations which exist.

We seem now to have reached a point in our group life when it is necessary to restrain accelerated progress in—to declare a sort of moratorium on—scientific and industrial advance in order to allow a panting social world to catch its breath. We need to emphasize the social sciences and the other studies in that middle range I spoke of to ascertain to what use society shall put all these new discoveries.

A few trite examples will demonstrate how generally social theory has lagged behind actual conditions and may serve to point the way in which modern languages may function. The fact that science has made possible new and improved methods of transportation and communication suggests the need for the evolution of new points of view toward, and better methods of dealing with, our neighbors in other lands. This is true in three important aspects of life, social, economic, and political. It is unfortunately true that great numbers of Americans do not seem to care to know more about their neighbors socially because of outworn prejudices, or because foreign customs differ from or, from the point of view of our high standard of living, are inferior to our own. I saw many examples of this in the contacts between our American soldiers and the French people during the war. Economically and politically many Americans are disinterested in people of other countries unless they can profit in a material way from such contacts, but even on as low a level as this, some knowledge of foreign customs and of psychology is an aid, and on higher levels it is a necessity. It would seem that if as the result of the study of languages any considerable number of Americans could be brought to a better understanding of foreign peoples and their ways of looking at things, the study of these languages is a good social investment.

Fourteen years ago the nations of the world finished a "war to end war" and consummated a peace which was to be the beginning of eternal peace, but this is an imperfect world, and the realist will tell you that we still have and will continue to have wars. During the war our scientists, turning away from peaceful pursuits, bent their energies upon the creation of ever more deadly engines of destruction,

and many of them continue so to do as a consequence of the lag which exists between what we ought to think and do to prevent war and what we actually think and do concerning war. Cannot the study of modern languages help toward a better understanding of the national problems of all races, and because of this better understanding, help obliterate some of the psychological, political, and economic understandings which lead to war? If so, it constitutes a profitable social investment.

As another example of the social lag between life in an environment created by science and our ways of looking at that life, consider the situation in my adopted state of North Dakota. Here, as in many of our states, science has enabled experiment stations and the agricultural college to show the farmer how to increase the quantity and quality of his product, how best to fertilize his land, how to diversify his crops, and how to reclaim and use vast areas once thought worthless. Physical science, applied to the creation of improved machinery, has enabled him to cultivate larger areas of land, to transport his products more rapidly and easily to markets, and to lead a less isolated existence. Here, however, is our social lag again. Applied science has not evolved practice in applied economics whereby the farmer may receive a fair return for his improved products, nor a system of credit and banking which will not fail him when he needs it most, nor a system of distribution whereby we can avoid the paradox of having at the same time in our country an excess both of food and of starving people.

Thus we see it in all phases of life. Science has changed our methods, but the humanities have not taught us how to cope with the problems which scientific and industrial changes have wrought. One machine does the work of a hundred men—and we have the unemployment problem. We have large-scale and cheap production —and the shutting down of plants. When industrial plants are open, we have increased leisure, but we do not know how to use it properly. We live in city apartments or small houses and expect our older conception of correct family life to direct our home existence.

I hope I have not taken up too much time in this enumeration, but I wish to emphasize the tremendous lag which exists and the necessity of a study of the humanities to take it up. Since it exists in other countries as well as our own, first-hand knowledge of the attempts other countries are making should help us in the solution of these problems, and that first-hand knowledge can be gained best by an understanding of other peoples, which in turn is best gained by a wide acquaintance with thought in other countries as reflected in the writings of their leaders.

My answer to the question, "Can the study of foreign languages be considered as a profitable social investment?" is an unqualified affirmative. My answer to the question which naturally follows, "Does the study of foreign languages as at present organized and conducted constitute a profitable social investment?" must be qualified. It depends on many factors: the aims of the particular course, the way in which it is conducted, the type of pupils in a class, the qualifications of the teacher, and many others. Remember in this discussion I am concerning myself primarily with the direct social outcomes of modern-language instruction and am intentionally omitting others which are of importance and which may have indirect social values.

First comes the question of aims. In these days of minute curriculum appraisal, we must examine dispassionately the contributions which the modern languages may reasonably be expected to make to the generally accepted aims of education. The most intensive examination would suggest no important correlation between any possible contribution of the languages on the one hand, and health education, parental training, religious education, or non-vocational practical activities, on the other, to use a current classification of general educational aims which will do as well as any other. Their relation to general social activities is surely limited to those persons who become proficient in them, and the most optimistic among us would hardly assert that this number is likely to be very large. Their relation to general mental activities brings us sharply face to face with the theory of transfer of training, and general transfer, psychologists tell us, cannot be considered as automatic or inevitable. Experiments in our own field seem to bear out their statements.

Certain of the possible outcomes are specifically related, if and when attained, to certain vocations which need a foreign-language background, and the fact that only some individuals in some of these lines make use of them certainly does not prove their uselessness, but rather that only a few persons are awake to their value. Two recent studies have listed vocations in which a knowledge of modern languages may be valuable.[6] In consideration, however, of the comparatively small number of students who will probably use the foreign languages vocationally and of the comparatively small number of vocations requiring such knowledge, a possible vocational objective alone in the average public school does not seem to be warranted except under the most unusual circumstances. Nevertheless, the possible direct vocational value plus the possible potential vocational value

[6] Schwartz, W. L. "Vocational Opportunities for Linguists," *Modern Language Forum*, XVI (October, 1931), pp. 121–24; and Bowler, Marion E. "Are Languages Practical?" *French Review*, V (November, 1931), pp. 141–45.

to those who know them plus the values to be enumerated next make their study of considerable social significance.

From the social point of view, the most valuable contributions which the modern foreign languages can make to secondary education seem to me unquestionably in those fields which involve language activities, spare-time activities, and citizenship activities. In higher education, in view of the selection which takes place and the fact that many students are pursuing the languages beyond the second year, these values seem particularly important for our potential leaders. It seems to me very fortunate, therefore, that the aims of modern-language teaching as set up by the Modern Foreign Language Study should include as ultimate objectives—the large end goals toward which our activities are directed—the following: the development of an "especial interest in the foreign country and its people, considerable knowledge of its past and present and a broadened attitude toward other civilizations than our own"; "increased ability to understand and enjoy the literature (in the original or in translation) and the art of other nations, and greater curiosity about such matters"; and an "ability to read the foreign language with considerable ease and with enjoyment for recreative and for vocational purposes."[7] The mention of such purposes among the ultimate and also the immediate objectives of study, both in the two-year and in the advanced courses, shows that many leaders of our profession have sensed this social point of view.

I am not at all sure, however, that in the organization of courses and in the methods used in daily classroom exercises any considerable number of teachers make any serious attempt to attain them. As is the case with teachers of other subjects, we who know and love the modern languages are tempted to think in terms of the intrinsic merits of the subjects as they appear to us as experts in the field. The fact that the study of modern languages has functioned in our own lives in such a way as to bring out these social values does not necessarily mean that they will function in the same way in the lives of our students who for the most part will not study the languages so long as we have nor have the same mental ability to start with. In the classroom, conditions are such that we are naturally led to think in terms of a certain amount of reading or writing to be done, certain oral exercises to be practiced, and I fear in many instances that we rather hope these ultimate goals will somehow be attained than make any constructive effort to attain them. Psychology teaches us, however, that results come about more surely if we arrange our teaching

[7] Coleman, Algernon. *The Teaching of Modern Foreign Languages in the United States*, pp. 107–108.

procedures so as to insure their attainment. What I am trying to emphasize here is that if we wish the modern languages to function so as to have social values, we must teach with these social values as a primary aim.

This brings us to a consideration of method, a dangerous subject in these days. It seems to me that in the recent violent discussions concerning method an important distinction has not been sufficiently emphasized, namely, that all courses in our schools, the modern languages included, have two aspects, the terminal and the preparatory. It seems clear that for vast numbers of those who begin the study of languages the course must be terminal; they will not continue it for more than one or two years. For certain others, perhaps 20 per cent, the course will be preparatory to future work. Do we not need different aims and different methods depending upon the given set of conditions under which we operate instead of the present insistence upon one method and almost one method alone as the only way by which linguistic salvation may be assured?

Disregarding minor details, we may describe teachers of modern languages as divided into two camps, each insisting that its method is correct: The one insists upon the continuance of the essential features of traditional methods in the sincere belief that the widespread adoption of the other will seriously impair the linguistic future of our students. The other quite as sincerely advocates a change in the method of approach.

Now I do not believe that we can set up any one method and say that no other shall be used. I am much more interested in results than I am in method. It seems to me that conditions in different schools vary so much that a choice of methods is necessary. For example, in a strictly college-preparatory school of the eastern boarding-school type or in a public high school the majority of whose graduates attend college, the preparatory sort of course might well be used. Students in these types of schools will or can attain the ultimate values we desire, both because of their longer study of the language and because of the increasing opportunities for correlation with other subjects of social aspect.

What of the 43 per cent of students, however, who begin to study a foreign language but who do not enter upon a second year, and of the additional 40 per cent who do not begin the third year? Now present-day educational philosophy demands that a subject must justify its existence on the basis of immediate value, of value to the extent pursued, and does not favor subjects which base their claims for recognition almost exclusively upon deferred values, though of

course it recognizes the cumulative value of continued study. Is there any great social value to a course which is carried on for the benefit of 20 per cent and which, for one reason or another, does not attract into further study 80 per cent of those who begin it? Many leaders powerful in educational influence will say that such a course represents social wastage in terms of frustrated desires, the building up of a sense of failure, and the impossibility of gaining any permanent gainful results.

This leads to the thought that if we could only forecast the future of our pupils, from the social point of view at least, courses in modern languages of a different sort might be arranged; they might be frankly designed for non-college pupils who wish some experience with foreign languages. In a large school, for example, there might be some classes quite definitely arranged for those who will probably continue their study and which might well be of the traditional type. At the other extreme might be classes specifically arranged with a minimum of actual language work and a maximum of *Kulturkunde*, courses of the sort described as carried on in a Philadelphia high school.[8] This type of course is also seen in Oakland, California, and in New York City. Passing the first type of course mentioned might carry full credit for college entrance, while passing the second might count only for high-school graduation. There could even be a third type of course of a probationary nature from which students might be promoted or demoted as their records warranted. I realize that our prognostic devices are imperfect in attempting such sectioning by ability, and that grave administrative difficulties are involved, but our philosophy teaches us that our duty is to provide equality of educational opportunity, which such schemes attempt to do.

There arises, however, the eternal question of the small high school where only one section of modern languages a year is possible. One possible solution there is to give a course which will fit the needs of the majority of the class, even though some students at either extreme will be handicapped. Another and better solution, if the teacher has the ability to do it, is to organize the work in contracts, giving full credit for admission to college to the students who consistently do the A and B contracts, but giving credit for graduation only to those who do not. This involves a return to a sort of certification by subject, but the increasing use of placement tests by college departments shows a trend in this direction. If this contract idea were

[8] Breazeale, Elizabeth. "General Language—A Course for Language Misfits," *Modern Language Journal*, XIII (January, 1929), pp. 316–18.

adopted, however, the passing of the lowest or C contract, from the point of view of social values, might be predicated upon the performance of tasks on the *Kulturkunde* level, and the passing of other contracts upon the passing of work on the reading, writing, and oral level.

From the social point of view, if we admit students to modern-language classes, the courses must be arranged so that the student of each level of ability has the chance to secure benefits of a social nature if he does the work of which he is capable. We may legislate as much as we please; we may set our standards as high as we please; we may prescribe what method we please; all our legislation and standards and prescriptions cannot change human nature, the result of centuries of biological and environmental forces. We must learn to fit our courses to the individuals we have before us, and not the individuals to courses. Methodology must be fitted to the patterns determined by the nature of the individuals, the ability of the teacher, and the given set of conditions existing in a school or system, and as these differ, so must methods differ.

There are many examples of devices and activities which attempt to emphasize the social values of modern languages. No one teacher can use them all, but each teacher may use some of them. Many of our newer texts, particularly those which have appeared since the publication of the Modern Foreign Language Study, have exercises designed to develop an interest in different aspects of foreign countries. The teacher should know these and experiment with them. Correlation with the departments of English and history is possible with credit divided for outside reading done in English books bearing upon the country whose language is being studied. The use of all sorts of *realia* is possible, in or out of foreign-language clubs. Possibilities in this direction are dramatic representations; songs and music; the phonograph, radio, films, and slides; maps, wall charts, and posters; the study of foreign newspapers and magazines; and correspondence with foreign students. Information concerning the possibilities in this direction is easily obtainable from those universities which have foreign-language service bureaus, from articles published in the modern-language periodicals, or from books on the teaching of modern languages. All such work has a great social significance.

Nearly every day happenings in foreign countries find a place in the news of the day. Students or teachers may bring these to the attention of the class, and they may serve as the basis for the beginnings of an understanding of foreign problems and foreign psychology. In large cities visits to museums or to parts of the city where foreign groups live may be profitable activities.

Certain investigations initiated by the Modern Foreign Language

Study began the study of foreign-language textbooks from the point of view of their content of cultural and informational material. Doubtless these will be continued. On the college level, the University of Chicago course correlates the reading and other work of each term with such topics as the political and institutional history and physical geography of the country whose language is being studied; its people, customs, folklore, and everyday life; and its art, literature, and science. Certain school systems, as for example, Denver and New York, have syllabuses with definite provisions for this work. There is no dearth of suggestive material for the teacher who wishes to emphasize this side of modern-language teaching.

You will say the acceptance of this social aim of modern-language teaching changes the direction of our endeavors and makes of them in effect social-science courses. Exactly. It is the only way in the opinion of many people that modern languages can justify themselves in a curriculum intended to have a social aim. We see it in Germany, for a leading authority on international education tells us that the tendency there to stress the social aspect of all studies has "introduced a change of emphasis in the teaching of modern languages, in which chief stress is being placed on the study of foreign cultures and institutions and their relations to German culture and institutions."[9] You will say further that such courses cease to be courses in modern language and become courses about modern languages and the countries where they are spoken. Not entirely so. For some they undoubtedly will, especially for those who do not continue their study, but each year's study can increase the yield in purely language ability and also the attainment of ultimate goals of a social character. Such activities as I have described make for courses of value to the extent pursued if only for a year.

In closing may I reiterate my belief that while the modern languages can with difficulty justify their existence today in terms of possible vocational individualistic-avocational values alone, they need little or no defense when their potentialities from a social-civic point of view are added. We cannot continue, however, to expect that one course, the same for all, will bring out these values. If we believe the study of modern languages has value for those of our boys and girls who will be followers as well as leaders, we must arrange courses in the light of their probable future careers or quite frankly admit that the languages are only for the intellectual élite. Their worth as a social investment must certainly be measured in terms of the dividends they return to the society which maintains them in the lives of all who pursue them.

[9] Kandel, I. L. *History of Secondary Education*, p. 269.

Is Education a Crime Preventative?

By FRANCIS C. CANNY[1]

CRIMINALITY, GENERALLY SPEAKING, is not a congenital defect, but a defect in the bringing up of the individual. In making this statement I exclude the so-called border-line cases which involve a class of psychopaths whose roots are partly in heredity and partly in environment. The first objects of the outside world toward which the child's interest is directed are the immediate members of the family. Thus, the relationship of the child to father, mother, brothers and sisters, and servants (if there be any) becomes the central problem of the future adult. The psychological management, therefore, of the growing human being becomes definitely the decisive factor of the whole development and functioning of the adult person.

The way in which the child overcomes the conflicts arising from this situation largely determines whether it will develop into a healthy or sick individual, or whether his general behavior will be that of a socially adjusted person or that of a criminal. The child in his tender years says, "When I grow up I will be like my father or my mother," as the case may be. If the model parent is a socially adjusted person of normal habits, the child is likely to have already started on a normal career. If the accepted model, however, is a drunkard or a thief or immoral or cruel or vicious, the child starts life with a handicap. Often it is only when the child starts to school that it perceives that its accepted model is different from the model which his teachers and fellow-students have adopted as standard. This recognition is sometimes disastrous.

The school is second only to the home in its influence upon the child and in the development of social attitudes. General public education is essential in America in order to prepare the individual for the most elementary duties of citizenship and for the requirements of modern social and economic life. But like all advantageous institutions, it also has its elements of danger.

The child is sent to school at its most impressionable age, when the mind and emotions are in their early stages of inquiry and development, when the appeal of adventure is strong, when the standards

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of social conduct have not been established, and the inhibitions or powers of resistance to suggestion or objective appeal are undeveloped. He is put under the discipline and guidance of teachers to whom his personal disposition and problems are unknown and often a matter of no interest, so long as he outwardly conforms to the rules. Thus at a time when his untrained nature is reaching out for sympathy, when emotional impulses are demanding expression, when he most needs understanding and sympathetic guidance, he is given rules to observe and the dry fodder of a fixed curriculum of instruction upon which to feed his mental and emotional nature. The dangers of this situation are greatly accentuated by the modern system of enormous schools with classes so large that the teachers hardly know the names of the pupils; yet they are engaged in the effort to standardize the personalities and minds of this mass of living human beings. It is not unnatural that children subjected to such conditions sometimes turn for relief to delinquent acts or community gangs and to the demoralizing leadership of the most outstanding truants and delinquents among their school associates.

If the difficult experiment of public education is to succeed, if the school is to supplement the home in the training of youth, as it is doing to an increasing degree, then it seems essential that means be devised by which more attention may be given to the training of the individual with some regard to his personal qualities and needs, to the understanding and the intelligent improvement and direction of factors of individual personality, and to the choice of associations and social contacts. The effort to compress all human beings into the one standard mold of the average never has been and, it is hoped, never will be successful; but the potentialities of efforts to that end for harm to the individual and the community are beyond measure. With all the advantages of popular education, there are many indications that no inconsiderable portion of modern criminal activity may be traced to associations made and attitudes developed in school life.

In Sing Sing Prison 80 per cent of the inmates have received some elementary education; 27 per cent finished the eighth grade; 17 per cent went to high school and 6 per cent graduated; 2 per cent went to colleges; and 5 per cent were illiterate. Is this an indictment of our modern teaching methods? Do our schools fail in their efforts to instill the principles of idealism which are necessary to the promotion and development of our civilization?

In my opinion, this situation constitutes a challenge to American educators which they have already bravely accepted. We find a new consciousness of civic responsibility in the enlightened schools. Psychiatrists and physicians are already a part of the modern educational

system. Play direction, home economics, vocational guidance, and needed healthful entertainment are a part of the curriculum.

Educators must be trained to be more than teachers of prescribed subjects of study; they must be made to realize the still greater importance of the individual's normal adjustment to the social order. They must have a tremendous patience and a capacity for human understanding. They must be prepared and willing to become the accepted model of conduct for children whose home life is unfavorable.

The school must ally itself with recreational centers and social agencies to the end that every child shall have comfort, healthful play, an understanding of its privileges and its responsibilities, and the means to become a useful member of society.

The Responsibilities of Education for Citizenship

By MRS. FRANKLIN D. ROOSEVELT[2]

MOST OF US THINK OF EDUCATION not only as a means of acquiring knowledge but as a preparation for life. This means that we are not only concerned with the academic side of education, but we are concerned with the physical, mental, and spiritual growth of every child.

In a country such as ours, general education is vastly more important than under any other form of government, for good government in a democracy depends upon the ability of education to produce citizens, not only willing to perform their public duties, but able to understand the questions that confront their government internally and in its relations with the world at large; citizens able to choose representatives worthy of confidence and to follow their actions with intelligence. It is necessary, of course, that we accept, as we always have in the past in this country, that education is the open door to all advancement.

We have always believed in the theory that every child should be entitled to equal educational opportunity, though in practice we have fallen far short of this ideal. Our reason for believing this lay in the fact that material success was so largely dependent supposedly on education. We have made rapid strides in material progress in this country. We are the most highly mechanized country in the world, and now we discover that education has a new use. We are

[2] Albany.

coming to realize that education is more important than ever before, since with the increase in machinery workers are employed fewer hours, have more leisure, and have not learned to use their free time profitably. We have but to note the increase in young criminals to realize what importance should now be attached to education for leisure. A heavier burden, a greater problem is laid on education today than ever before, if we regard as a necessary result to be attained through education, the making of better citizens.

We, therefore, are forced to look with greater care at our educational system and study the methods so far used to achieve the purpose which we are considering today. How do we go about training our boys and girls for citizenship?

First, they are taught to reverence the flag; it is an honor to carry it, they salute it, they pledge allegiance to it and to their country and the ideals for which the flag stands, but here we come to our first serious difficulty. This pledge sounds well, but it rarely means much. What are the ideals we talk so glibly about, how concretely do the youngsters translate work into action? What responsibility and service do they render at once, now, which leads them to feel that this lip service is something more than a memory test? Here in school begins the idea that we may enjoy the privileges of citizenship, for instance, public school, but rarely do we acquire at the same time the realization that these privileges carry responsibilities for every individual which cannot be satisfactorily performed by anyone else.

Second, we teach American history, and if the numbers of children with whom I come in contact who do not like history are typical of the country at large, we are not very successful in inspiring this present generation with admiration for the past or in giving them an understanding of the importance of knowledge of our past problems in solving present ones. We celebrate national holidays and they are welcome as holidays. We study the lives of certain of our great leaders on their birthdays, but it is rare that a child has any conception of what made the men great! They are to most children military leaders, statesmen, writers, orators; they were born, they performed in the play called life, they died, and their names and deeds are recorded in a book; but what made them great, what significant things they did which make them important to us, this remains a mystery and one which most children and many teachers are not interested in.

Third, we teach them civics, and here I think in many cases we are doing better than was done in previous generations, but even here, judged by results, there are some strange holes in their knowl-

edge. I have talked to a great many groups of women, and it is surprising how often the organization, the mechanics of governing their localities even are unfamiliar to them. Our children should learn the general framework of their government, and then they should know where they come in contact with the government, where it touches their daily lives, and where their influence is exerted on the government. It must not be a distant thing, someone else's business, but they must see how every cog in the wheel of a democracy is important and bears its share of responsibility for the smooth running of the entire machine.

These are the ways in which today we are training our children for citizenship, and it is evident that success in this is entirely dependent not on the textbooks which the children have but on the teachers; here is our serious problem I think. We have been able in this country apparently to have pride in our school buildings, to see the need for space, air, and light; gymnasiums, laboratories, and manual-training shops; but we have frequently forgotten that these things are dead without human inspiration. We frequently take too little care in choosing our teachers, in the training which they receive, and in their compensation. I have had people tell me that a teacher's life was easy in comparison to a business man's, they have longer holidays, therefore they should receive lower pay. I always long to place these wise men for a few years in a teaching position. No teacher can be successful who does not carry the children in his care constantly in his mind and heart during the school terms; it is not only academic work, it is social work; and it requires patience and self-discipline and often courage of a high order. A teacher must study, replace in himself all that he gives out, and for this he must have vision and sufficient margin of income not only to live, but to spend his periods of rest profitably. It is a good investment for the country to keep its teachers up to the highest possible standards—only thus can they train good citizens.

Physical Education for Girls in the Secondary School

By HARRIET V. FITCHPATRICK[1]

A PROMINENT PLACE IN THE SCHOOL CURRICULUM for athletics and recreational activities is consistent with the philosophy of modern education. All who are engaged in the field of physical education are aware of the fast development of various experimental programs. Over a period of twenty years, girls' sports have experienced an extremely rapid growth. None of us can doubt the increased amount of participation among girls of today as compared with that of a generation ago. Summer camps, industrial firms offering athletic opportunities to girls and women, municipal play fields, parks and swimming pools, all are proof of this, not to mention the ever increasing facilities in colleges for women's sports. With this growing interest in girls' athletics we are faced with the responsibility of so directing our programs that they may better contribute to the enrichment of life, not only in school, but out of school as well. It is of major importance to those of us who are responsible for the direction of the program that we give proper guidance in the choice of activities which bring the desirable outcomes.

A well-balanced program designed to meet the girls' needs and carried on under careful supervision in healthful surroundings is surely in harmony with modern educational thought. The school should be concerned with the welfare of each pupil. It helps to fulfill this aim by providing a wholesome program of activities for every girl and not for the few so-called "stars." It is better to judge the standard of a successful program by the number of girls it interests rather than by its victories and championships.

At Cleveland, pupils are assigned to physical education for a minimum of two single periods per week. The number of pupils excused by a family or school physician is small, since a modified program adapted to meet specific health needs is arranged for pupils with physical defects. Thus, a girl may be assigned to a rest period or a corrective-gymnastics class in place of the physical-education period.

The physical-education program should offer the girl training in

[1] Cleveland public schools.

a wide variety of fundamental skills in order that many interests can be encouraged. In general, the secondary-school program includes opportunity for training and participation in athletics, rhythmic activities, stunts, tumbling and pyramid building, track and field events, swimming, corrective gymnastics, intramural games, and elective classes. All competition for girls at Cleveland is organized on the intramural plan. The intramural program is planned to give each girl an opportunity for team membership. Teams are formed by home-room or class groups, and competition is usually conducted by the round-robin method. Our records show that approximately seventy per cent of all girls in the secondary schools participate in some form of intramural play. During the first semester of the present school year over four thousand intramural-team games were played.

A well-balanced program of intramural games is an essential part of any physical-education program, but, in addition to this, elective classes in individual sports, such as tennis, archery, golf, and bowling, should be stressed. If the junior high school provides a foundation in many of the sport skills, the senior high school can well afford to offer the girl elective classes according to her own choice.

A successful program in physical education demands the organization of a squad or special-leader group. This is essentially true where large classes are taught. In addition to developing pupil leadership, the special groups can assist the physical-education teacher in carrying out a program and in officiating at the intramural games.

Hearts and Health

By J. W. WILCE, M.D.[2]

THE HEART IS COMING INCREASINGLY into public consciousness since a normal heart in one sense is one the presence of which is seldom recognized. Heart deaths lead the national death list at present. While educators will not often be called upon to decide questions concerning serious cases of heart trouble, the possibility of encountering pupils unable to carry on the normal routine of school life necessitates that teachers, and physical-education instructors in particular, be able to recognize heart disorders.

Heart disease may be divided into three classes: first, patients with organic heart disease, able to carry on ordinary physical activity without discomfort; second, patients with organic heart disease, unable to carry on ordinary physical activity without discomfort;

[2] Ohio State University.

third, patients with organic heart disease and with symptoms or signs of heart failure when at rest, unable to carry on any physical activity without discomfort.

The general designation of cases of possible heart disease and potential heart disease will need to enter, increasingly, the educational picture. The first thing to be done is to prevent harming hearts further, which can only be done by proper gradation of mental and physical work. A heart case of the third class is given absolute physical and mental rest, permitting no element to cause even acute emotion.

Heart consciousness should vary directly as to the intensity of the activity. In general those in charge of intercollegiate athletics should be most heart conscious because of the dangers in that field. Physical-education instructors follow next. Without a good physical examination boys and girls may be injured by routine exercise requirements, particularly on cold days in the open air. Regular teachers will see little evidence of pathological heart conditions, but a pale, tired-looking child who takes deep breaths, sighs, becomes tired easily, and wants to sleep, is a case where the teacher needs to have the heart in mind.

All children with hearts which greatly limit activities should eventually be organized in special schools on the same theory that special attention for tubercular children and preventive work for suspected cases of tuberculosis are arranged. The local tuberculosis association has, in a laudable way, included some heart cases in the county preventorium. Every school should have annual examinations. Health inspection by the school nurse is a splendid thing but is not a substitute for medical examination.

Physical education is, of course, graded in most comprehensive systems, but hearts need to be graded in some uniform way. It is my belief that many crimes are still committed against hearts because we are unwilling to admit that there are a great many people for whom exercise in physical education should be absolutely forbidden. I will venture to assert that much morbidity outside of physical education would be prevented in the average college and high school by including adequate elevators in all buildings over two stories in height.

Intercollegiate athletics present a special problem. The examiner for teams has an unenviable job in that medical science may necessitate the barring of star athletes. It becomes the duty of educators to urge the highest integrity of examinations for intercollegiate athletics and to have the courage to stand back of medical decisions in the face of popular opinion.

We thus are led to conclude that education must protect pupils' health. The subtle nature of organic heart disease in its early stages

prevents adequate recognition, but classroom teachers should be able to recognize gross heart disorders as well as tuberculosis and more obvious conditions. Educators must insist on adequate annual physical examinations and histories for all pupils, not merely athletes. Parents should be educated to the idea of periodic examinations by the family doctor; and the adequate examination of all students who are candidates for teams or who are taking physical education should be insisted upon before the student is allowed to return to activity after acute infection or attacks of infectious diseases.

Integrating Physical Education

By NELLIE LEE HOLT[3]

STUDENTS INTERESTED IN PHYSICAL EDUCATION are too often called "tomboys," and students interested in religious education are constantly called "sissies." Even faculty colleagues think of the former as education for persons with brains in their hands and feet, and consider the latter as a transmission of superstitions, or at best a clever indoctrination. One of the present trends in physical education is a desire eventually to absorb mental hygiene. This objective is entirely reasonable. Physical education has always concerned itself with the physical well-being of persons. Why should it not, then, concern itself as well with their mental well-being? The new psychology contradicts the old Pauline division of a human being into flesh and the spirit, and classes the human being as a total personality with tremendous emphasis on physical well-being.

On all sides physical and health education are related in current opinion. Whether this is advisable or not is outside this discussion. One thing, however, is obvious in the ranks of health and physical education. Division is present. If not, why would there be so many family physicians excusing boys and girls from required physical education? Not long ago I visited a high school in which 50 per cent of the girls were excused from the required work by family doctors. If the medical profession cannot be convinced that physical education has something to give to the health program, why claim to be educators? A person who found a clever way of dealing with illegitimate excuses required the replacement of the three hours of exercise by five hours of rest. Bad hearts were improved by the next quarter!

If physical education is to be integrated into the lives of students, into the whole curriculum of the school, it must be integrated into

[3] Stephens College.

the lives of the educators. Is there not some way of incorporating more physical education into teacher training? The English teacher knows that she cannot develop in the student body natural, proper, and good English usage unless all the members of the faculty assist her through their own personal habits. Obviously the same thing is true in physical education.

The work of the gymnasium instructor is almost entirely the giving to the child of direct experiences. Compare the character education possible in your field with the character education which we can give in the classroom. How much more opportunity you have to teach co-operation, leadership, self-control, the physical and social qualities than does the person who tries to teach those same qualities by an exhortation given once a week in a Sunday-school room.

Is it too much to ask to share the objectives formulated for character education through physical activity with associates in other fields of education? The teacher of history, the sponsor of the school paper, the leader of the glee club, the director of the school dramatics, the teacher of mathematics, all are certain to agree. All may, then, integrate those objectives through the entire school program. Character education succeeds only when the ethical value in each separate activity is generalized, intellectualized, and constantly repeated.

In many of the students' activities, the transfer of training is questioned. Might not part of that question be answered if the transfer is discussed less and the emphasizing of objectives in other phases of education more?

Where is physical education needed in an integrated curriculum? First of all, it is needed in the whole realm of recreation. On an English staff, one expects to find some person who is prepared to sponsor the school publications; in the speech department, someone prepared to coach debating; and on the music staff, someone prepared to direct the orchestra. Why, then, should not one find on the physical-education staff and the recreation staff, the chairman of recreation for the school? Handball and football are taught and play is encouraged. Why, then, cannot students be taught more to do in their social activities? There is a great throng of students who confine their activities to dancing and playing cards; another restricted throng, with a great degree of self-consciousness, who confine theirs to the geography games at the Sunday-school party. Such a condition is no symptom of an integrated recreational program.

In the second place, physical education is needed in the solution of the question of leisure time. There should be in each school a group of persons interested in the leisure-time activity of the students.

Some students will select reading; others, music, sports, or handcraft. Should not a person skilled in one of these help students of like choices to develop their interests? That will help physical activity to its proper place as a leisure-time activity. A freer choice of activities and a wider repertoire of interests is certainly needed. We need physical activities adapted to students of all types of motor quotients.

As a third factor, the place of physical-education directors on the social committee of the school is obvious, and here the table turns. The place of the social chairman in health administration is equally obvious. I know of more than one institution where persons in charge of student-activity programs are never once brought into conference with the health administration.

Fourth, relaxation is one of the greatest problems of modern life. The relation to physical education may be disputed, but the need for teaching it is too obvious to be stressed here. It seems to me infinitely more important that a shopgirl and a mother be taught to relax than that a débutante be taught to hurdle. Whether or not physical educators wish to include relaxation in their programs, the educational world expects them to do so.

There is one point at which physical education might make a compromise which would bring in an uncompromised result. In most physical-education courses, there is some emphasis on posture and walking. Students generally improve their postures and walk with low heels; but girls do not always wear low heels. When they wear high heels, there seems to be no transfer of training. At Stephens College we found that the girls wore low-heeled sport shoes altogether on the campus. One dealer alone sold to our six hundred girls 1,800 pairs of low-heeled shoes in the course of a year and mailed the same type of shoes all over the United States to former graduates. When we watched our girls in evening dress, we saw that they had not carried over the good posture we thought they had developed while wearing sport shoes. Two weeks of attention to posture in physical-education classes was then begun. The girls were instructed to bring their high-heeled shoes to class. When they did not get into the spirit of the experiment, they were asked to bring evening dresses. In formal costume, they practiced standing, sitting on low davenports, and dining-room chairs. The girls were interested and the experiment seems to have been of some benefit. Probably critics will say, "That is not physical education," and we will answer, "It is not vigorous activity, but it is socially wholesome and mentally speculative, at least to an adolescent girl. It may not be entirely physically wholesome, but it gives us an opportunity to show the girls what is

wrong with high-heeled shoes. In the end it will probably bring more converts to lower heels than any tirade."

We are differentiated by inheritance, by thinking, and by experience. If our education is actually to develop the whole personality and to train for a peaceful civilization, we must attempt to integrate our differences as best we can. The integration of differences will have to come by thinking and by experience. Biologically, we develop from the small to the large; similarly, psychologically, society develops from the unit to the whole. If education is to keep apace with this era, it must integrate the individualistic and the socialistic. In every phase of education we must attempt to show the student the organic whole of society. Massing as we do thousands of students of one age in educational institutions, we give them a false notion of organic society. They see it in layers as a cake, and they generally conclude that they are the icing. Rather, we should show that organic society is vertical, as a tree. Each, teaching in his special field, must not be so interested in his own subject, as in the development of the relation of his subject to the whole of life. Physical education integrated into the whole life process can help to develop the student's group consciousness and make him aware of the creative spirit in life.

The Place of Physical Education in the Daily School Program for Primary Children

By GERTRUDE KIENZLE[4]

PHYSICAL ACTIVITY SO PREDOMINATES in child life that it must of necessity play a large part in a primary program. In considering the value of a physical activities program in helping to attain the objectives in primary-education, attention shall be given to purely physical activities although as much could be said of health education.

Many a primary teacher believes that she is carrying into practice the modern philosophy of education as Dewey states it: "Living is experiencing, experiencing is living." The aim is to provide for the growth of the child by many rich and varied experiences, among which physical development has first consideration.

A recent book by Olive Horrigan, *Creative Activities in Physical Education,* as accurately described the philosophy and practices of primary education and their relationship to physical education as though the subject of her book were the former field. Significant emphasis is placed on physical education in a modern program. She

[4] Toledo public schools.

declared that subjects once considered "special" such as music, art, and physical education are now recognized as valuable instruments for the development of the individual. This is the use of physical education which we consider most valuable in a primary program.

A simple example of this type of child development through unit work is found in a second grade which read "Jack and the Beanstalk." At the following gymnasium period they took giant steps to the music. When they dramatized the story, music was added for the fairies. This continued until in the final presentation every mood and action was played to music. Activities grew from making scenery, properties, preparing to read the story, and visiting other schools to see puppets of the same story. When it was presented at an assembly program, the audience was seated around the walls leaving the large center space free for the playing or pantomiming that followed the reading of each part of the story. At the end of the first act Jack invited a section of the audience to skip with him.

In such units the child is really living, and the physical development is a live part of the unit. Through the entire daily program from the work period, through reading, music, spelling, numbers, and the gymnasium period, physical education is ever present. A regular play or gymnasium period provides relaxation, joy of playing, opportunity to make friends, to develop leadership, good sportsmanship, and to adjust socially to the group.

Dr. Bode says that education is thinking, and the only way to think is to be faced with a problem that must be solved. Through our squad play, our unit work that requires work periods, our committee work, and our conferences, numerous opportunities are offered where children find it necessary to work together for a common good. Thus the well-rounded development of the child is provided for in our primary program.

In the development of the child through his varied experiences in large units of work, the primary teacher needs much help from the supervisory staff of the physical-education department. She needs: available annotated bibliographies for all types of rhythms, dances, and games, to be used with any desired unit; free access to materials needed, such as books, records, and music; rich subject-matter; help in working out difficult parts of certain dances or games; suggestive courses of study, help in planning physical-education programs and in fitting activities to certain ages; consideration as an individual and capitalization of abilities; inspiration, ideas, educational guidance, provided through demonstrations in all types of work, such as presenting new games, dances, developing creative activities, following definite rhythm patterns, and organizing squads.

The Health Implications of Physical Education

By HARRY A. SCOTT[5]

WHILE THE IMMEDIATE OBJECTIVE of physical education is to provide education of the physical through the physical, the field is also vitally concerned with the concomitants of its special program. Health as such is not the direct aim of physical education, but this phase of education is one of its most important by-products. Hence, in planning a program the health implication of physical education must be clearly understood and definitely provided for.

The health of the student may be improved through the program of physical activities. It must be understood, however, that all activities are not equal in health-giving values; likewise, certain activities may possess potential health values at one period of life and actually become harmful or of little or no value at another. With these thoughts in mind the Society of Directors of Physical Education in Colleges through a Committee on Curriculum Research has been studying the problem of the relative values of different kinds of physical activities for boys. A great number of activities were studied from their effect upon: the development of physical and organic growth and the improvement of body function; the development of sound social and moral qualities, characteristic of a good citizen; the development of sound mental attitudes and ability to think quickly and clearly; the development of skills that make the individual capable of protecting himself and others in emergencies (safety skills); and the development of skills valuable as hobbies for leisure-time use.[6]

In order to secure the data for the study, physical activities were grouped under six main headings, aquatics, combatives, gymnastics, individual sports, rhythmics, and team games; and they were rated by a jury of experts on a scale of 0 to 10 according to the five contributions just enumerated. These experts were carefully selected with the assistance of supervisors of physical education in nineteen states and twelve city supervisors in other states. Each supervisor selected the outstanding physical-education specialist in each of the twelve grades in his state or section. Thus 372 judges were chosen to consider the relative values of the physical activities involved in the study. Opinions were received from about 50 per cent of the group.

In treating the data the scores submitted by the various judges for each grade were tabulated under the proper headings, showing

[5] Rice Institute, Houston, Texas.

[6] Report of the Committee on Curriculum Research, 1930 Proceedings of the Society of Directors of Physical Education in Colleges.

the contribution to each of the five factors, physical, social, psychological, safety, and recreational. The median score of all the judges was then computed for each activity for each of the five contributions, and an average taken of the median scores of the five contributions for each activity (*see* Table I). This procedure resulted in the "all-round contribution" of that activity for that particular grade. For

TABLE I

AVERAGE OF MEDIAN SCORES FOR ALL-ROUND CONTRIBUTION OF VARIOUS PHYSICAL ACTIVITIES FOR BOYS ON THE DIFFERENT EDUCATIONAL LEVELS

Activity	Average of Median Scores in Grade Groups			
	I–II–III	IV–V–VI	VII–VIII–IX	X–XI–XII
(1)	(2)	(3)	(4)	(5)
Swimming and diving	4.4	7.7	8.3	8.5
Soccer		5.1	7.2	7.1
Tennis		3.8	6.5	7.2
Basketball		.3	7.4	7.5
Volley ball		3.6	7.0	6.8
Speedball		2.3	6.4	7.1
Playground ball	2.4	6.8	7.2	7.2
Track and field	1.2	5.1	6.3	6.2
Modified games	5.4	6.2	6.2	6.1
Baseball		3.3	6.7	6.6
Touch football	1.0	.8	6.1	6.5
Gymnastic games and relays	7.8	6.6	6.2	6.3
Football		.1	7.2	7.6
Life saving		5.2	6.1	6.4
Boxing		.1	5.3	6.3
Wrestling		.1	5.8	6.1
Handball		3.0	5.3	6.1
Tumbling and pyramids		4.5	5.3	5.8
Gymnastic dancing	1.0	3.5	4.7	5.2
Golf			4.5	6.1
Clog and tap dancing		2.5	4.0	5.2
Heavy apparatus		1.5	3.2	3.7
Horseshoes (quoits)		2.8	3.2	4.0
Folk dancing	4.5	4.0	3.8	4.8
Squash and squash tennis		.4	4.3	5.6
Free exercises	1.5	1.8	3.2	3.3
Fencing			3.3	4.5
Archery		.2	3.2	4.2
Water polo			4.5	6.2
Marching	1.2	2.1	2.2	2.5

practical purposes the all-round score would be used to determine the relative emphasis to be placed upon a given activity as compared with all other activities for a given grade. The school grades were grouped into four divisions: elementary, Grades I–III; intermediate, Grades IV–VI; junior high school, Grades VII–IX; and senior high school, Grades X–XII. Table I shows the average of the median scores for

the all-round contribution of each of the activities on the various educational levels. In studying this table it may be seen that only one-third of the activities studied were regarded as valuable on each of the four levels. Swimming, gymnastic games and relays, and modified games maintained a fairly high average throughout the twelve grades, while free exercises, marching, gymnastic dancing, and folk dancing were regarded as making a relatively small contribution on any level. Playground baseball, touch football and track, and field sports increased in value on each succeeding level. It is also significant to note that the vigorous competitive activities of basketball, football, wrestling, boxing, and the like were not considered valuable until the junior high-school period, and received their maximum scores on the senior high-school level.

If this has indicated that physical activities vary as to kind in their potential ability to affect the physical well-being of the individual, it is likewise true that the amount of exercise needed by pupils on the different grade-levels is an extreme variable. The approximate minimum number of hours per day of big-muscle exercise required by normal individuals of various ages in order for them to develop and maintain good physical condition is shown in the table that follows.

Age	Minimum Hours per Day
Five–seven	4
Seven–nine	6
Nine–eleven	6
Eleven–thirteen	5
Thirteen–sixteen	4
Sixteen–eighteen	3
Eighteen–twenty-two	2
Beyond twenty-two	1

Most school situations at present do not provide enough time for each child to receive supervised exercise in sufficient quantities to bring about the development and maintenance of proper physical condition. Indeed it is quite likely that this will never be the case. Hence, the physical-education program in school must be regarded in the light of an instructional period during which students are taught skills in the kind of games they will most likely take part in during their leisure hours. At least a part of the after-school periods should be devoted to organized intramural as well as interschool contests. While the writer feels that it is never wise to overorganize the free hours of the pupil, it must be realized that the physical welfare of the child can best be served only through the proper organization and supervision of play facilities both in and out of school.

If the proper kind and amount of exercise is necessary to the

development and maintenance of bodily well-being, it is equally important that the physical education of the individual be carried on under healthful conditions. It may seem trite to mention here the importance of the health examination of students before permitting them to engage in a program of physical activities, but this procedure is necessary not only from the standpoint of physical education but is equally important in academic life. It is only through a comprehensive, periodic health examination that physical and organic defects may be discovered, the knowledge of which should result in a modification of the physical or academic schedule of the pupil. Where this practice is not followed there is considerable evidence to show that in many instances health has actually been impaired rather than developed or conserved.

Students who are free from physical or organic defects as revealed in the periodic health examination should be permitted to engage in normal academic and physical activities. Those with health deficiencies should be provided with a program of individual physical education the nature of which must be determined by the character of the defect. In no case should a student be permanently excused from the physical-education requirement as it is practically certain that he will profit from an individual physical-education program if he is physically able to remain in school and pursue his academic work. Such a requirement should, of course, be administered under the close supervision of a medical doctor.

The individual physical-education program must consider the fact that at best the work in this field can never take the place of a normal program of activities. Hence, every attempt should be made to limit the time spent in this program to the minimum amount required to bring the student back to normal. Likewise, it must be understood that the corrective program is obligated to teach the student skills in suitable recreative activities in addition to the corrective exercises necessary to improve or remedy his defect. In this manner the student will be provided with the means of obtaining pleasurable and beneficial exercise when school days are over.

In every gymnasium as in any other school building some attempt is usually made in the direction of cleanliness, and yet it is obvious that most gymnasiums do not provide the ideal environment. The gymnasium should be the most sanitary and attractive building or portion of a building in the entire educational plant. That this is only an ideal is shown by entering the locker room of the average gymnasium. Usually constructed in the basement of the building,

these rooms emit the odor of foul-smelling clothing, and otherwise give the appearance of neglect. Inadequate spacing of the lockers and shower baths in the immediate vicinity of the locker room adds to the unsanitary and unattractive situation. There is little wonder that skin infections of various sorts infest the average locker room.

These conditions are easily remedied and at relatively little expense. A proper conception of the health implications of physical education and a little ingenuity on the part of the instructor will rapidly solve the problem. Many schools, chiefly on the college level, have found the tote-basket method of uniform storage, together with adequate launderings of uniforms, effective in combating communicable skin infections. In many schools the entire gymnasium costume excepting shoes is supplied by the institution, and a complete laundry maintained to cleanse the clothing. By a system of fees the uniforms are rented to the students for the duration of their stay in school. In practically every case such a practice has not only been responsible for a great reduction in infectious skin diseases, but it has also increased the voluntary use of the physical-education facilities due to the availability of uniforms whenever desired. This plan has been used in high schools in some sections of the country with considerable satisfaction to all concerned. In addition to the health benefits such a plan of uniform control is much more economical than the traditional locker-storage plan, both from the standpoint of equipment required and of space. Certainly in these days of economic depression and reduced budgets any plan which will save money should be considered when new buildings are being designed and constructed.

Because of state public-health laws, most schools possessing swimming pools have been compelled to meet more or less standard requirements; hence in most places the swimming pools are conducted satisfactorily from the health standpoint. Since public-health laws regarding other health hazards are not so well observed in other parts of the gymnasium, we very often find unclean and inadequate toilet facilities. Floors are not properly cleansed, and tumbling and wrestling mats serve to increase the opportunities for infection.

Athletes often are improperly equipped and thus subjected to greater hazards than should be the case. They are often permitted to engage in strenuous activities without the proper safeguards as to physical condition; likewise, many injuries of minor consequence at the beginning develop serious proportions when neglected or inexpertly treated. The services of a competent doctor are imperative to the conduct of an educational program of interschool athletics.

It is obvious that these practices are not in accord with the highest

ideals of health or physical education. That these practices have been permitted to exist in the physical-education environment is perhaps the best argument we can present in support of the importance of trained teachers in the field. A teacher with ideals and a sense of responsibility could never countenance unhealthful conditions in and about the gymnasium in view of the fact that they are so easily and effectively remedied.

Ringworm infection of the feet has been given considerable publicity in late years and not without provocation. A recent study conducted in the Buffalo public schools indicated that the fungus which causes the foot infection could be killed by submersion in a 0.35 per cent sodium-hypochlorite solution.[7] Acting upon this information a rubber foot bath is now being manufactured for the use of this sodium-hypochlorite solution.[8] This foot bath is placed in a spot near the shower baths where the students may pass through the solution. This method of sterilization is used as a prophylactic measure only, not as a cure for the infection once it is contracted. In this case the treatment is best prescribed by a competent physician.

In addition to a properly conducted program of physical activities and the attention to the health supervision of the student, a course in personal hygiene which is designed to translate health knowledge into health practice is a necessary part of the instruction of students on any educational level. This course should view health as a means rather than as an end in itself and be so taught as to become intrinsic and meaningful to the student. Such a course will, if properly conducted, result in a broadened and enriched conception of health, and in a better understanding of the student's obligation to himself and those with whom he lives.

Possibilities of Competitive Sports

By C. W. SAVAGE[9]

NOT LONG AGO MY ATTENTION was called in a peculiar way to the subject of competitive sports. Few of us realize, I think, until we stop to consider, how large a place competition holds in our present-day life. Not only in sports, but in almost every field of endeavor, we are motivated by the spirit of competition. We love to compete in every field of endeavor from bridge and billiards to banking and building; from raising beautiful babies and crowning bathing beauties

[7] *Journal of the American Medical Association*, August 15, 1931.

[8] T. A. Patterson Laboratories, 1561 Merwin Avenue, N. W., Cleveland, Ohio.

[9] Oberlin College. This is but a summary of the address given at the Conference.

to building bigger and better dirigibles and record-breaking boats; and in those pursuits in which we ourselves cannot compete, we thrill at the sight of the record-breaking achievements of others.

Three important trends in competitive sports are the growing conviction that there is something incongruous about the present system of interschool sport in the life and work of the school; the sentiment that there is an increasing number of people who feel certain that friendly rivalry is right and highly desirable, who nevertheless instinctively question much of the procedure which today is characteristic of interschool competition; and the idea that if competition in sports is a natural and justifiable phase of the process of education for the participants as well as for the school in general, more people should share in the participation.

Along with these changes in attitudes and, undoubtedly, partly because of them, two marked changes in practice are taking place: the tendency to extend to every boy and girl who cares for them opportunities for athletic and game competition, intramural athletics; and the beginning of the process of decentralization of high-school athletic competition. State championships have been recognized as injurious to the real objectives of school work, and as a strong influence in building up antipathies between schools, as physically dangerous to the participants, and as an unwise expenditure of funds.

The future possibilities of a program of competitive sport administered, with educational objectives instead of championships in view, by a farseeing school staff sympathetic to the democratic idea in sports are far beyond the ability of any of us to picture. If educators could turn their backs upon the present system of commercialized and over-specialized team sports and handle the powerful interests of youth in competitive sports with an eye single to achieving the greatest good for the greatest number of students, a new era, not only in public-school education, but in college and university life, would be inaugurated in America.

The trends in thought which I have set forth are at this very time under way in actual practice. National and state tournaments are being given up in New York and California. Championships are passing. Wise leadership by women of vision is holding competition for girls away from the traditional mistakes of the men. With an ever widening circle of educators, both men and women, attempting persistently to apply educational tests in the sphere of competitive sports, I can see within the realm of possibilities a time not so far distant when every boy and girl will have a fairer and a bigger chance to share in competitive sports and thereby reap some of the benefits which are now claimed for and offered only to a chosen few.

Three-Dimensional Space

By LOUIS EHRENFELD[1]

WE MUST ACCEPT AS A PREMISE that man learns by experience. Experience is free of the boundaries of geography and language. The Fiji Islander learns the same fact as the savant when either comes in contact with a live coal. A stubbed toe in the dark teaches the same lesson to the Dean of the College of Arts and Sciences as it does to the lowly Freshman. That the dean may explain to himself the application of Newton's third law of motion by means of this experience eases his grief not one whit more. The fundamental idea remains. The entire purpose of education, as I see it, is to condense the experiences of mankind into a minimum compass, so that the assimilation of this knowledge may become part and parcel of the equipment of each succeeding generation. The issue we are interested in now is how to transfer this accumulation most painlessly to the most minds.

The ancient method of transmitting accumulated facts from one who knew them to one who was ignorant of them by direct instruction grew into the system of recording those same facts into books and assisting the learner in their assimilation. This assistance took the form of lecturers, demonstrators, quiz masters, and the like. The system has been carefully studied and is being constantly improved.

Is there not some way of returning to the simple method of affording to him who would learn the opportunity of experiencing the sensation of the discoveries, without limitation of time, place, or vocabulary? In other words, is it possible to establish a super-laboratory wherein any individual may add to his experiences those of the experimenters, discoverers, and inventors who have gone before? Such an attempt is being made.

The preliminary experiments have been tried. In 1903 Dr. Oskar von Miller invited representatives of German industry to discuss with him the creation of a museum in which the masterpieces of science and engineering were to be preserved, and their relations to industry were to be set forth. He had in mind something other than a mere storehouse to which the public would be admitted.

[1] Curator of Chemistry of the Museum of Science and Industry of Chicago.

Machines were to move and, as far as possible, the public was to make them move by pushing the buttons or pulling the levers that controlled the driving energy. There were to be paintings and charts to supply, as simply and interestingly as possible, facts that could not be discovered by a study of engines cut open to reveal mechanism ordinarily concealed. Every other means of allowing the visitor to obtain the experiences at first hand were proposed. The proposal was enthusiastically received, and the result was the establishment of the now famous Deutsches Museum.

Struck by the brilliant success of this experiment and by the anomaly that, despite its achievements in science, engineering, and industry, the United States had nothing to correspond with this museum, the late Julius Rosenwald decided to establish in Chicago an institution which would utilize the experience of Europe and develop the technique of dramatic, living education.

The outcome of this decision was the establishment of the Museum of Science and Industry in Chicago. Let us turn our attention to the material exhibited in this "museum of the new age."

The arrangement of the exhibits in the Museum is in the form of a number of sequences. Each sequence in itself tells a complete story. All of them reviewed in order afford the visitor the opportunity to study and experience the steps from the beginnings of man's technological knowledge to the accomplishments of today.

The sequences in the museum are:

1. The Fundamental Sciences
2. Geology and the Mineral Industries
3. Agriculture, Textiles, Forestry
4. Motive Power (Stationary)
5. Highway Transport
6. Rail Transport
7. Water Transport
8. Air Transport
9. Graphic Arts and Communication
10. The City

Thus we are able to begin with the study of the laws and phenomena which underlie natural phenomena, following these with observation of the sources from which we fashion the material objects making up our environment and this in turn with a study of the growth of the machine. In order not to be biased, the strictly technological development is followed by a study of the means man has used to record and transmit his knowledge. The summary of the whole story is told by a delineation of the growth of the city.

Throughout all the sequences, while the technology is demonstrated in three dimensions, the economic and social factors involved are strikingly and dynamically shown by charts, diagrams, and in some cases moving exhibits. The fundamental science sequence is divided into three sections: mathematics, physics, and chemistry.

These appear in this order in the sequence. Unfortunately we are not able to go into the detail of the entire sequence so we shall start with the point at which chemistry begins.

The chemistry section is itself divided into four subsections: fundamentals, inorganic industry, electrochemical industry, and organic industry. In the first subsection the visitor comes to a room devoted to everyday chemistry. The aim of this introductory room is to remove the fear that the exhibits to come will smack of the black art. Such household arts as the electrolytic cleaning of silver by boiling with soda in an aluminum pan are shown. The preservation of color by boiling green vegetables with soda is demonstrated. Stain removal is completely demonstrated and explained. A major exhibit, based on Faraday's *Chemical History of a Candle,* is used to illustrate what is meant by chemistry.

From this introduction, the route leads to a large room with two deep alcoves. In the first of these, as the visitor enters, is reproduced an alchemical laboratory. The reproduction is correct in the apparatus and in equipment, as well as in architectural detail. The forge which served as a source of heat bears smoldering coals which glow more brightly as the inquisitive visitor tugs at the handle of the huge bellows.

The second alcove contains as nearly the ideal modern laboratory as is possible to plan. The recommendation of the leading experts on laboratory construction are all incorporated in its design. Thus in one leap we transfer the view from the past to today. The change, of course, is in the material side of the science. What of the changing concepts? On the center pedestal in this room is placed a large analytical balance, symbolic of the change in technique and thought. Quantitative thinking and experiment brought the change in the science. Adequately worded labels help to tell the story of the transition from the abstract speculation of the Greeks, through the misguided experiments of the alchemist, to the logical, careful research of the present time.

Following this second room is a long corridor, the hall of the elements. Here an encyclopedic record of all the elements is on view. Each separate element has its own niche. A panel some thirty inches wide and five feet high tells the usual story of the occurrence, preparation, properties, and uses of the element and its compounds; but the occurrence is a turning globe, the preparation is a series of motion-picture presentations, and the properties and the uses are demonstrated instead of listed. Thus the limitation of vocabulary is overcome. The experience is the same for all.

Down the center of this hall a group of demonstrations of the properties of matter replaces a page of definitions in the handbook. As a single example, the difference in electrical conductivity as distinguishing metals from non-metals is a device so arranged that the visitor may place across two copper bars a rod of sulphur or a rod of copper. A light in circuit between the bars indicates the passage of or absence of current. For any age or any mentality the experience is the same. Thus the properties and fundamental characteristics are being translated into demonstrations which show the phenomena.

After becoming acquainted with the properties of the elements and their compounds the path of the visitor leads to a room where the fundamental reactions of chemistry are waiting to be observed. A device has been worked out whereby the pressure of the observer's finger sets off any predetermined reaction involving "liquid-liquid" reactions or "liquid-solid" reactions. The mechanics of demonstrating reactions between solids, particularly at elevated temperatures, is at present being investigated. So far the best means of obtaining the desired end has not been found.

The external appearance of a chemical reaction, however, is only part of the story. The ionic interplay is interpreted by means of animated cartoons, projected on a screen adjacent to the actual experiment by automatic projectors.

Thus prepared with the fundamentals of the science, the logical step is into the industry, but, before the special industries can be understood, the machines which have been the outgrowth of the laboratory apparatus must have been studied and understood. In order thus to prepare the visitor, the next area is devoted to a presentation of the essential operations and equipment of the chemical engineer. The handling of solids, liquids, and gases is demonstrated in full-sized, working units; not only does the visitor see the external appearance, but the operating unit itself or another is sectioned so as to lay open the mechanics usually concealed. Charts explain the application of the individual pieces of equipment.

The panorama of the chemical industry now comes into view. The treatment is the same throughout. In each industry, a short review of history is given, sometimes pictorially, sometimes by a parade of tiny models. The properties of the materials made and used are demonstrated by the spectator through suitably designed demonstration machines. The steps involved, as well as the various transformations of material, are presented. A justification of the existence of the industry is given by means of a review of the uses and the economics of the industry.

In this general way are treated in order:

1. Sulphuric and other acids
2. Heavy chemicals
3. Salts and soda
4. Glass
5. Ceramics
6. Alkali and chlorine
7. Electroplating
8. Nitrogen fixation
9. Explosives
10. Furnace products
11. Drugs
12. Gas industries
13. Coal tar
14. Fermentation
15. Soaps, fats, and waxes
16. Protective coatings
17. Synthetics

There is no lack of interest in science and technology. Evidence of this fact is found in the ever present crowd watching the lumbering behavior of a steam shovel at work preparing the excavation for a future building foundation. The thing that is lacking is an opportunity to gratify this curiosity about science and technology. It is the purpose of the Museum to afford this gratification.

The scope, the aims, and the method of this institution have been reviewed here for you, not for the purpose of spreading news of it, but so that you might be the better aware of a new departure in education. If there be anything good in the experiment, I am sure that it can be adapted and adopted into the more traditional routine of the university, the college, and the high school. The oriental saying that "a picture is as good as ten thousand words" is true. It is no less true that "an experience is worth ten thousand pictures."

Old and New Ideas Regarding Gravitation

By PAUL R. HEYL[2]

In the history of scientific thought we may discern a certain trend which has never wavered since man began to speculate on the reasons for the wonders round about him. At first he regarded all the phenomena of Nature as having no connection with each other, and assigned a separate cause for each. The wind, the rain, and the sun were each ascribed to the action of different deities; whereas we now recognize the solar heat as the ultimate cause of both wind and rain, one cause in place of three. This process of correlation of phenomena and of reduction of ultimate causes has been many times repeated in the history of science and has characterized scientific thinking from the earliest times. It is what philosophers call monism, because its ultimate aim is the reduction of all phenomena to special cases of one broad and all-embracing law.

A long step toward this goal was taken by Newton, when in his *Principia* he showed that all cases of motion, whether terrestrial or

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celestial, could be explained as consequences of one general law, that of universal gravitation.

A still longer step, or series of steps, was taken during the nineteenth century. The physical science of the eighteenth century had been a rather loose and disjointed affair, consisting mainly of uncorrelated facts about half a dozen entities as then recognized, matter, heat or caloric light corpuscles, electricity, magnetism, and phlogiston. By the end of the nineteenth century these had been correlated and consolidated along with much newly discovered material into a closely woven pattern involving but three fundamental concepts, matter, energy, and ether.

Among the various phenomena studied by the physicist, gravitation, from Newton's day to the twentieth century, had stood in a class by itself. For the rest, the unification of physical phenomena had gone on apace. Heat had lost its individual status and had taken its place as but one of the many forms of that protean concept, energy. Relations had been found between magnetism and electricity, and between electricity and light. But with all this consolidation, gravitation had held itself aloof, steadily refusing to acknowledge any kinship to what were strongly suspected of being its relatives. Much experimental work had been done in the hope of linking up gravitation to something else, but the results had all been negative. True, there is a superficial resemblance between gravitation and the attraction of magnetic or electrified bodies, but with the law of inverse squares the resemblance ends, for magnetic attraction can be cut off by a suitable screen and is greatly influenced by temperature, and in electrostatics we have also the effect of the intervening medium. Nothing of this kind obtains in gravitation. By the end of the nineteenth century it had been established that gravitation acts equally on all substances; that it does not depend on temperature; that it is not influenced by the state of matter, whether solid, liquid, or gaseous; that it is independent of chemical combination or physical solution; and that there is no known screen which will diminish its action. As for positive results, our knowledge of gravitation was just where Newton had left it two centuries before, yet optimism prevailed, and hope was maintained that gravitation would yet be brought into line with other physical phenomena.

Like Moses of old, however, the physicists of the nineteenth century might look ahead over the promised land but might not enter. It was reserved for Einstein in the twentieth century to make the first positive step toward the correlation of gravitation with other phenomena of Nature.

With all these negative results, speculation as to the nature of gravitation had not been idle. The *Smithsonian Annual Report* for 1876 contains a summary and criticism of some twenty-five or thirty hypotheses as to the nature of gravitation which had found their way into print since the time of Newton. Since 1876 there may be added four or five more of importance. Needless to say, none of these hypotheses is today of more than historical interest.

The earliest of these speculations that can be ascribed to any definite authority is that of Aristotle. This philosopher was content to explain the falling of bodies by ascribing to them a property of "heaviness," and because he observed that smoke and other vapors rose rather than fell he ascribed to them a corresponding property of "lightness," thus dividing all bodies into two classes with a sharp line of distinction between them. The idea that the rising of smoke might be a differential action, like the rising of wood in water, apparently never occurred to him.

So great was the influence of Aristotle upon human thought that this particular error lasted in the minds of some persons until the eighteenth century. It played an important part in the invention of the balloon by the Montgolfier brothers. These had observed, like Aristotle, the rising of smoke and the floating of clouds, and they reasoned that if they could inclose sufficient smoke in a bag the "lightness" of the smoke would carry the bag upward with it. That they had no thought of the part that hot air might play in this experiment is shown by the fact that the fuel they used for their first fire balloon was chopped straw, a material rather inconveniently bulky, but one which produced much smoke. After the success of their first experiments the true cause of the ascent of their balloon was pointed out by Charles, the physicist, who suggested the use of hydrogen in later trials.

Another error was made by Aristotle when he stated that heavy bodies fell with speeds proportional to their weights. Though he might easily have checked this erroneous conclusion by experiment, he does not appear to have done so, and so great was his authority that we have no record of anyone presuming to question this statement until the appearance of Galileo, two thousand years later.

Neither Aristotle nor Galileo nor any intermediate student of Nature, however, seems to have advanced any hypotheses as to the cause of gravitation. Newton himself, as he says in his *Principia*, purposely avoided this; but though he "framed no hypotheses" in his formal writings, his letters show that he speculated freely, as every scientific man should. There is extant a letter from Newton to Boyle in which he suggests that the mutual attraction of all bodies might

be due to a change in the density of the ether at different levels above the earth's surface.

Among the many suggestions that have been made since Newton there are a few that it may be of interest to consider. One of the most notable of these was that put forth by Le Sage of Geneva in 1750. Imagine two circular plates to be held parallel to each other in a hailstorm. If the storm is so violent that the stones may be assumed to come from every direction it will be seen that the two plates will, to a certain extent, shield each other's inner faces from the impact of the hailstones, and the closer the plates are to each other the greater will be this shielding. As a result, the two plates will be pushed together by a force which will increase as the distance between the plates is lessened.

Le Sage imagined the universe to be filled with "ultramundane corpuscles," flying about in all directions with high speeds, like the molecules of a gas, and pushing together any pieces of matter that happened to be close enough to each other. The obvious objections to this theory are the heating effect of these impacts and the source of continuous supply for the energy, but it is to be remembered that at the time this hypothesis was put forward the conservation of energy was as yet unrecognized. Another objection to this theory is that according to it a closed box should at least to a certain extent shield particles of matter within it from gravitative action. Gravitational screening was comparatively unrecognized in the eighteenth century.

We find in Le Sage's hypothesis a concept which has held its own in every later suggestion that has been made as to the cause of gravitation, namely, that gravitation is a push rather than a pull. Le Sage's hypothesis attracted wide attention, and its influence is to be seen in many of the hypotheses which followed. If we imagine the number of these ultramundane corpuscles increased until they pass from the state of a swarm of discrete particles to that of a stream in a fluid, we have the fundamental idea which was repeatedly set forth in one form or another during succeeding years and which is frequently proposed today, as anyone of fair experience with scientific cranks can testify. The definite shaping of the concept of the luminiferous ether in the nineteenth century had much to do with the growth and spread of such ideas, but to all such suggestions the objection of gravitational screening is a fatal objection. It is conceivable that such streams might penetrate the structure of solids, but not without some reduction in velocity, else the body penetrated would not be subject to gravitation, and any reduction in the momentum of the stream must show itself in a corresponding reduction of gravitative force on the other side of the screen.

A new turn was given this idea that gravitation was due in some way to ether motion when Kelvin suggested his famous hypothesis of vortex atoms in 1867. When this theory was proposed the question that came at once to the mind of everyone was: "Will these atoms gravitate?" It was not apparent at first whether they would or would not, and a long and difficult mathematical analysis was required before this question could be answered. Maxwell expressed the hopes and doubts of the time in the article "Atom" which he wrote for the ninth edition of the *Encyclopaedia Britannica* in the 1870's, in which he said: "It may seem hard to say of an infant theory that it is bound to explain gravitation." Such, however, was the case. The searching mathematical examination to which the theory was subjected, largely at the hands of J. J. Thomson, failed to indicate any possibility of mutual attraction between these atoms, and Kelvin finally admitted that his hypothesis must be abandoned.

But hope springs eternal in science as elsewhere, and in a few years a new and promising suggestion appeared. It was discovered experimentally that oscillating or pulsating bodies immersed in a fluid medium such as air or water would under certain circumstances attract each other, and under others repel. At once the question of gravitation of vibrating atoms suggested itself. This was given serious study by Karl Pearson in 1889, but he later abandoned this line of attack for another which seemed to him more promising. This was his theory of "ether squirts."

It has been observed that a source in a fluid medium, such as the end of a hose turned on under water, would under certain circumstances attract a similar source. Pearson followed up the hydrodynamics of this problem, and found that not only would two such sources attract each other, but two sinks, where fluid disappeared, would also attract, while a source and a sink would mutually repel each other.

Pearson suggested that an atom might be a source in the ether at which ether was continually generated, perhaps poured in from somewhere outside in the fourth dimension, or conversely it might be a sink at which ether disappeared. If the ether was incompressible, as was generally held, and space was full of it, it followed that matter, to exist at all, must be found in equal and opposite quantities of the two possible kinds. To account for the fact that but one kind is known to us, Pearson suggested that in the course of ages the two kinds had separated by their mutual repulsion, and that somewhere in the distant reaches of space there would be found a universe of the opposite type of matter, a counterpart of our own. Whether this would be of the source or sink variety it was of course impossible to

say. In support of this hypothesis he cited the instance of a certain star (1830 Groombridge) which possessed the greatest proper motion of any star then known, a velocity so great that it could not have been produced by the attraction of all the known matter in the universe, acting at the distances involved. Pearson suggested that this velocity might have been produced by repulsion, the star having at one time been much nearer our system.

Against this theory of gravitation there is to be considered the apparently omnipresent objection of gravitational screening, which would entirely vitiate the hydrodynamical reasoning upon which Pearson founded his hypothesis. It is to be said, however, that the full force of the evidence for the absence of gravitational screening was not recognized until the twentieth century.

The next hypothesis of importance came from Osborne Reynolds. In its way it was as original as that of Pearson, for it involved a complete inversion of our ideas of the structure of the universe. Reynolds supposed the ether to have a fine-grained structure such as might result from some process akin to the piling of shot. He further supposed there to be cracks or irregularities in the piling. These empty spaces or cracks in the substratum of the universe Reynolds regarded as the atoms of matter. He was able to show that under pressure there would be a tendency for two such cracks to approach each other, thus satisfying the first requirement of an atomic model, as understood at that time. It can be seen, however, that if two cracks were separated by a large, completely empty space, corresponding to a thick and dense piece of matter, while there might be a tendency for both cracks to approach the empty space, the latter would effectually prevent any action of one crack on the other across it. In other words, the everlasting objection of screening again interposes itself. Reynolds' suggestion was the last notable attempt to explain gravitation prior to Einstein. Before considering Einstein's work we may profitably review in some detail the character of the negative evidence which we have so frequently cited, especially that referring to gravitative screening.

Gravitation appears to act equally on all bodies. This was shown for light and heavy bodies first by Galileo, and the experiment has since been repeated many times with a much higher degree of precision. As to its action on different substances, Newton by pendulum experiments showed this to be the same to about one part in one thousand. Bessel carried the precision of this work to about one part in sixty thousand without finding any positive result. It is noteworthy

that among the substances tested by him were meteoric iron and meteoric stone.

The most precise experiments of this nature are those of Eötvös, who by an ingenious application of the torsion balance succeeded in pushing the precision to six parts in a billion (10^9). The substances tested by him form a considerable list, including copper sulphate both in the solid state and in solution, thus furnishing evidence as to the effect of change of state. Eötvös also tested radioactive material. To the limit of precision which he was able to reach, his results were negative in all cases.

The question of a possible effect of temperature on gravitation was investigated by P. E. Shaw. The investigator at first believed that he had obtained a small positive result, but afterward found that this was due to a certain error in experiment. His final conclusion was that gravitation is independent of temperature to one part in ten thousand.

Astronomical evidence on this point is furnished by certain short-period comets. As these bodies approach the sun they must rise considerably in temperature, and if this has any effect on gravitation, the orbit should be altered considerably. But since these comets return time after time with no displacement other than can be accounted for by the influence of the planets near which they pass, the temperature effect must be non-existent. Because of the great rise in temperature involved in such cases, many times that which can be applied in laboratory experiments of this character, the precision of the negative result must greatly exceed that obtained by Shaw.

As to gravitational screening, the best evidence is also astronomical, though laboratory work on this point has been carried out. That which has attracted the greatest attention has been that of Majorana, published about twelve years ago. He reported a small positive result which, however, seemed to grow smaller at every repetition of his experiment. The practical difficulties of such work are so great that a result of the order of magnitude reported by Majorana might easily be accounted for by experimental error.

Astronomical evidence on this point is not lacking, and because of the large scale of the experiment and the length of time available for comparison the precision of such evidence is high. For example, we may use the whole earth as a screen, and consider what would happen at every eclipse of the moon if there were any gravitational screening. If at such times the solar gravitation should be cut off from the moon by an amount as small as that reported by Majorana, the moon would retreat slightly from the earth and the sun, and the cumulative effect of the millions of eclipses that have happened since

the moon separated from the earth would long ago have removed the moon to such a distance that we would never know that we had had such a satellite.

If it be argued that the gravitational shadow of the earth may not reach as far as the light shadow, we may consider the evidence furnished by the tides. The gravitational pull of the moon produces a tide on the side of the earth opposite to the moon as well as on that facing it, and it has been shown by Russell that an absorption of a thousandth part of that announced by Majorana would show itself as a perceptible irregularity in the tidal motion.

In this case we have also the evidence of astronomical clocks. A few years ago the Lick Observatory claimed to have found a small difference in the rates of their clocks as between noon and midnight. The records of the U. S. Naval Observatory do not confirm this. Results over a period of fifteen years show that there can be no effect as great as one-tenth of that which was claimed by the Lick astronomers. The precision of the Naval Observatory results would limit gravitational absorption to about one-hundredth of the amount claimed by Majorana. It may therefore be concluded that there is no substance on or in the earth in quantity sufficient to exercise any perceptible gravitative screening.

All these facts concerning gravitation were well known to Einstein, who pondered over them, set them in perspective, and by his genius was able to evolve from them a suggestion as to the nature of gravitation, which, while not perfect, is the first positive advance that has been made in the subject since the time of Newton. Every hypothesis as to the cause of things, no matter how flawless in logic and sound in mathematics, must stand the test of experiment before final acceptance. In the case of the Newtonian law of gravitation this test required many years and involved long-continued observations of the planets. For decade after decade the motions of these bodies were observed to follow with exquisite accuracy the paths prescribed for them. With the passage of time instruments became more perfect, and with the lapse of years the cumulative accuracy of the measurements increased; yet so closely had Newton cut to the line that over a century elapsed before any serious divergence of observation from theory became noticeable. Finally, in 1845 Leverrier called attention to the fact that the planet Mercury showed a slight irregularity in its motion, inconsistent with the law of inverse squares, and too large to be explained as an error of observation. This discrepancy has been confirmed, and the seriousness with which it has been regarded is shown by the many attempts to explain it on the basis of Newton's law.

All such attempts were failures. It is true, the assumption of a belt of diffuse and very finely divided attracting matter surrounding the sun would account for this irregularity on the part of Mercury, but such matter, in quantity sufficient to produce this effect, would undoubtedly be visible. All such attempts having failed, the radical proposal was made to alter slightly the Newtonian law by changing the exponent 2 to 2.000,000,1612. This suggestion was made by Asaph Hall, the discoverer of the satellites of Mars, and for a time it received the favorable consideration of no less an authority than Newcomb, who abandoned it only after E. W. Brown showed that the motion of the moon would not allow of even this slight departure from the whole number 2. The anomalous behavior of Mercury thus remained an unexplained puzzle.

Such was the state of affairs when Einstein appeared on the scene with his now famous law of gravitation. This law had little in the way of intrinsic attractiveness to recommend it. As opposed to the simplicity of Newton's law, that of Einstein is complicated in the extreme. Theories far less formidable have fallen of their own weight, but that of Einstein has gradually compelled recognition despite its repelling appearance, solely upon performance, by reason of its ability to furnish results; for it not only explained everything which the Newtonian law explained, and equally well, but it also, without forcing, explained the great puzzle of the irregularity of Mercury. Nay, more; it undertook the always precarious business of prediction, for it indicated the existence of a phenomenon hitherto unobserved—the deflection of a ray of light under the intense gravitational force of the sun. This prediction has now received the stamp of verification in the results of several solar-eclipse expeditions. Such a record of performance on the part of a new theory demands for it the serious attention of all who profess and call themselves physicists.

I have said that gravitation stood for a long time in a class by itself among physical phenomena. In so far as this is true, it was due to the short sight of the observers, for Einstein pointed out that there was another phenomenon of very much the same kind, namely, inertia, in the form known as centrifugal force. Centrifugal force is independent of the material, is not a function of the temperature, and cannot be cut off by any form of screen. In fact, centrifugal force, like gravitation, seems to be a function of nothing but the mass involved and its space and time co-ordinates.

Einstein illustrates this by means of a revolving disk. Imagine such a disk capable of carrying an observer, such as may be seen in amusement parks. Let the disk be covered by a dome which revolves with it, so that the observer within cannot tell by direct observation

of other bodies whether or not the disk is in rotation. Suppose the disk is at first stationary. The observer, in walking from one point to another of his little world, would perceive no difference as between one point and any other. But let the disk be set in rotation, and though the observer could not directly perceive the motion he would become aware of a certain difference. At every point of the space except the center he would experience a force repelling him radially outward, and the greater the distance from the center the greater the force of repulsion. He would, in fact, be in a sort of turned-inside-out gravitational field of force.

With our superior knowledge we recognize this "force" of repulsion to be purely inertial in its nature. As such, it does not originate at the center of the disk, but in the observer himself, and consequently no screen erected between him and the center can diminish the force he feels. Here we have an illustration of how the motion of a system may give rise to something remotely simulating a gravitational field which disappears when the motion of the system stops.

Another illustration that may help us in this connection is that of an elevator. Imagine an elevator with closed walls, containing an observer. Suppose the elevator at first at rest. Let a bullet be fired through it horizontally. The path of the bullet, to the observer within, will appear as a straight line from wall to wall. If the elevator be moving upward with uniform velocity, the path will appear again as a straight line, but slanting downward. But if the upward motion of the elevator be accelerated, the path of the bullet will no longer appear straight, but as a curved trajectory, convex upward.

The observer might account for this curved path by saying that the bullet moved according to the resultant of two forces: its original impulse, causing by itself a straight path from wall to wall, compounded with another force of attraction of some unknown nature, drawing the bullet downward toward the floor of the elevator. This is again assuming the existence of a force which does not really exist, and which in consequence may be expected to be rather difficult to explain. What has actually happened is that the observer has changed from fixed to moving co-ordinates.

Imperfect as are these attempts to represent the actual gravitational field of a body, they may nevertheless help us to understand what Einstein means when he says that a gravitational field is equivalent to an inertial field produced by a suitable change of co-ordinates; yet neither of these illustrations furnishes us with a change of co-ordinates adequate to the representation of the actual three-dimen-

sional field of a material particle. Finding such a co-ordinate system, if indeed any should exist, is a task to appall the best equipped of mathematicians; yet with sublime confidence in his intuition, it was to this task that Einstein set himself.

And then a wonderful thing happened; for with but the slenderest of clews and guided principally by what we may fairly call the intuition of genius, he succeeded! He found a transformation of co-ordinates which represents a little more accurately than Newton's law the physical phenomena concerned in gravitation.

Imagine a surface of still water of indefinite extent. On such a water surface a floating particle, if set in motion and freed from the action of all forces, accelerating or retarding, would travel in a straight line. If the surface were curved slightly, the particle would follow the shortest, "straightest" path it could find, obeying Newton's first law of motion with the added condition of being confined to the curved surface. For a spherical surface, this path would be an arc of a great circle; for a surface of any kind of curvature, the path would be a more less twisted line, called in general a geodesic.

Let us imagine a flat surface. By careful manipulation it is possible to lay upon this surface a small particle of a heavy body, such as lead or even gold, so that it will float. The only thing necessary is to avoid breaking through the surface. The particle then lies supported by the unbroken water surface bent into a cusp or depression. The geodesic of this cusp will be a curved line, but if this geodesic be continued on either side of the cusp it soon straightens out.

Suppose now a comparatively heavy particle thus floating and forming a rather deep and widely extended cusp. At some distance from it, where the surface is again flat, suppose a light particle, which makes hardly any cusp, is moving in such a direction as will carry it past the heavy particle at a short distance from it, but well within the latter's cusp. The path of the moving particle, at first a straight line, will, as it enters the cusp, gradually assume the curved or geodesic form proper to the space in which it finds itself. Assuming no attraction to exist between the particles, the small particle will pass on and out of the cusp, its path again becoming straight; but on account of the brief twist to which it was subjected in passing through the cusp, the latter portion of the path will not in general be a continuation of the first. The particle will have suffered a deflection.

An observer watching the motion of the particle through what we may call Newtonian spectacles, which do not show him the curvature of the cusp, will say: "Yes; on passing the large particle the smaller one seems to have suffered a force of some kind, and to have been deflected from its straight path." But let him replace these

glasses by others of Einsteinian make, and he will say: "No; I see now that there was no force of attraction at all. It was purely the inertia of the moving particle combined with the peculiar curvature of the surface which it had to traverse that produced the change in its path."

So much for a two-dimensional surface curved in a third dimension. Einstein's explanation of gravitation contemplates an analogous phenomenon in a space of four dimensions, curved slightly in a fifth. A ray of light coming from a star traverses for millions of miles a region of space remote from material bodies, and consequently "flat." Through this region the path of the ray is a straight line. But if it eventually passes close by the sun, whose great mass causes a considerable cusp or warp in space, the path becomes twisted, and when it again becomes straight it has been permanently deflected from its original course.

If the small particle passed very close to the large one, it might not be able to get out of the cusp at all, but would circulate round and round, describing a curve whose shape would depend on that of the cusp and on the plane of motion of the small particle. If the cusp be shaped somewhat like that around the stem of an apple, the path of the small particle might be an ellipse that failed to close, and would resemble the actual orbit of Mercury.

Concepts such as these are apt by their strangeness and transcendental character to cause us to lose the true perspective of the situation. The theory of relativity is a working mathematical hypothesis, designed to cut a little closer to the line than that proposed by Newton. But it is still artificial in its nature, and is by no means to be regarded as the ultimate representation of the truth of Nature.

Einstein himself regards this child of his brain quite sanely. Being a mathematician, he naturally recognizes an empirical equation fitted to a curve as something totally different from the real equation of the curve, and bound to diverge from it if carried out far enough. "No amount of experimentation," Einstein is reported to have said, "can ever prove me right. A single experiment may at any time prove me wrong." Not that anyone has at present a better theory to suggest than that of Einstein, but such a thing may and doubtless will come to pass when the hour and the man arrive. Newton cut so closely to the line that over two centuries elapsed before an Einstein could better his formula; and how long it will be before the next corrective term is added to the empirical equation for the great curve of Nature is a matter at present on the knees of the gods.

Integrating Religious Education

By NELLIE LEE HOLT[1]

TWO FIELDS OF EDUCATION are as old as parenthood, physical education and religious education. The history of civilization shows various attempts to bring these two together. In medieval Christianity the religious subordinated the physical; in some schools of modern nationalism, the physical has subordinated the religious. In America today both fundamental branches of education are frequently subordinated to the obligation of teaching the child to earn his living successfully. The Greeks sought a balance of the two. Is it possible that a balance may be achieved?

The findings of the new psychology and of the new physiology pointed to greater integration of religious and physical education and the whole curriculum. Body and spirit can no more be divided than they can be defined. It is impossible to locate a boundary at which thorough physical education should end and thorough religious education should begin. There is much in physical and religious education which needs to be integrated with the whole curriculum. Obviously, the information which the student is taught has little effect upon him in comparison with what he actually experiences. Even the radical Havelock Ellis says that a man without religion is dangerous. When I asked him what kind of religious education he thought was practical, he answered that he considered the task of religious educators that of creating an environment in which students may experience religious values. Certainly, this environment cannot be unrelated to the rest of the educational environment.

At what point may the process of integration of religious education with the rest of the curriculum be best carried out? First, almost nothing can be done without the sympathy of the administration. How ridiculous it is to countenance a religious education which is fenced in by a catalogue number and which is made to stay in its classroom or limited to twenty minutes Sunday morning. The administration first of all must approach the teaching of religion as something bound up with the whole life of the world and which must

[1] Stephens College.

be given every opportunity to permeate the whole life of the student. There must be, of course, the groupings of religious subjects with college credits.

If religious education cannot gain the co-operation of the administrators and the respect of the faculty, it is irretrievably lost. If what we have to give children and adolescents cannot be intellectually respected by their other instructors it is of dubious value to the students. Teachers are generally convinced that their own subjects are of unequaled importance, yet they are willing to give others a hearing. Can we show them the alliance of religious education with their own specialty?

The first principle of spiritual living and therefore the first objective of religious education is the losing of self in the task of humanity. The instructors in history, in biology, in needle craft may phrase that thesis differently, but they will agree on the fundamentals. The second principle of spiritual living is the cultivation of solitude. The instructors in psychology, physiology, and the humanities will be loud in applause of anything which will help to reduce the tension of modern life. The third principle of spiritual living and therefore the third objective of religious education is the cultivation of the appreciation of the beautiful. Which one of your colleagues whom you respect will not uphold your aims in an attempt to further that great cultural value? The fourth principle of spiritual living is the practice of fellowship. What economist, what chairman of social studies, what dean of women will not help in practical technique of developing that objective? The fifth principle of spiritual living and the fifth objective of religious education, one which is rarely exhibited, is the principle of following the "Kindly Light . . . one step enough for me." Not only one's colleagues but all of mankind revere the person who sacrifices sincerity for his cause. If we accept these objectives of religious education, how may they be integrated throughout the whole curriculum?

Can we teach students to lose themselves in the task of humanity by helping them to see the specific and adventurous tasks which confront their generation? We say that we are teaching citizenship. How do we account for the fact that less than half of the persons entitled to vote in the United States ever go to the polls? The problems of citizenship as course content may be mastered and accredited on the student's record card in the registrar's office, but the student may feel no personal responsibility for the solution of those problems. Until citizenship is taught with vital and dynamic emphasis on personal responsibility the student is being cheated and the taxpayer is being cheated.

Can we teach students to cultivate solitude? Can we teach them to relax? Can we ourselves relax? The working day has to be shortened. Wholesome leisure activities must grow in proportion. We try to make the activities at the church center a combination of the country club, the night club, and the cinema, but this does not solve the problem. Some weeks I have so many religious activities I get practically nothing done with my own religion.

Can we teach students the practice of fellowship? Unless we can carry over into the street, the shop, the office, the feeling of sportsmanship which we are developing on the playgrounds, in boy-scout camps and in democratic discussion groups, men will not learn to live as brothers. The practice of fellowship requires as much cultivation as any art and until that technique is consciously repeated, intellectualized, and generalized, we remain as individuals, poverty-stricken, and as a people in a life of warfare.

I am not interested in the information a student has mastered if he cannot interpret it in terms of living as an individual and as a member of society. It is by that criticism that I would integrate religious education into the whole curriculum. The fullest integration of the human personality is in the pursuit of the spiritual ultimate. Can it be taught? Not unless we accept an interpretation of life upon which we will depend and for which we, as individuals, will sacrifice.

As long as a nation accepts with comparative calm the majority decision of its Congress above the conscience of its people, that nation is sounding its spiritual death knell. Perhaps we are afraid of the calm quiet life within, while we build to the clouds, gird the earth with our voices, and see beyond the skies. Are we? Again, I suppose, it is "westward ho!" to a frontier, new, yet as old as God.

In Unity—Strength

By ROBERT LEONARD TUCKER[2]

CONFRONTED WITH THE SPIRIT OF SECULARISM, the church, home, and school find themselves in the same boat. The tide of human spirit which floats one boat in the harbor floats all boats, and since that tide has ebbed, these boats are all stranded in positions of jeopardy on the mud flats of the harbor. The tide is out. Home builders are finding it difficult not only to keep some sort of idealism burning upon the altars of a home, but to keep the home going at all.

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Educators are discovering that literature, art, and poetry cannot flourish in a medium of secularism. Something ominous resides in the fact that the so-called practical courses, the courses which train engineers, lawyers, and physicians how to go out into the world and make money are filled to overflowing as profit-seeking American youths throng these branches of learning to which there can be attached a definite money return. While this proceeds, those scholarly pursuits which have a cultural effect upon the human spirit and equip the human mind with such facts as permit a man to look into the eyes of a fellow with understanding, and gaze at the sky with the feeling that the universe is a knowable and friendly place—these courses often go begging for patronage. Home ideals suffer; education cannot produce a full-rounded personality nor can the church give character to the world in this atmosphere of secularism.

As a protest against dogma, secularism is to be heeded. Only a few centuries ago religion became most dogmatic. When her position in human society seemed most impregnable, she was brought low, and a wave of humanism, of which the teachings of Erasmus are typical, swept Europe. Religion has never since gained the pinnacle of dogmatism which she assumed in the medieval church. Now education inclines toward dogmatism. Huge sums of money granted her by the state, the enthusiasm which the American citizen has for her, together with the notable victories she has attained in the past have blinded her to the fact that she has not yet arrived. Her great prophet, Professor John Dewey, says: "The sum of the matter is that at the present time education has no great directive aim. It grows, but it grows from specific pressure exerted here and there, not because of any large and inspiring social policies. It expands by piece-meal additions, not by the movement of a vital force within." The school can train the child but cannot yet train him how to be critical. Mass psychology is rampant in the American high school. Here that false goddess "They" receives abject obeisance. One has only to observe the ill-formed and uncritical ideas of nationalism with which our high schools are indoctrinated to observe how the factor of an intelligent criticism, which is a blessing to any republic, is ridden underfoot. One has only to see how unable college students are to think for themselves, how they fall into the lock step of the R.O.T.C., for instance, to realize that education has not met all the ideals set up for herself.

Efforts are being made to break away from such limited thinking and to train our citizens in the field of ethical conduct. None will deny that with our system of law reeling before great body blows delivered by corrupt politicians on the one hand, and organized

gangsters upon the other, the situation is really serious. The breakdown of rugged individualism in our economic life, the sorry plight to which the theory of laissez faire has brought us, the sickness of the present system which seems amenable to no cure, all these call for a quality of ethical conduct exacted from no previous generation. Our present instruction in ethics gives scant results unless supported by some sort of religion, for religion is a drawing force. It releases all the power of high emotion. Convince a man that there are resources outside his personality which will help him, and his attitude simply must be changed from what it was before he believed this to be true. The old Socratic assertion that if a man knows the right he will do the right is vitiated by evidences from a score of places on every side, nor does one need to turn to the realm of psychopathology only to observe hosts of folks who have perfectly clear-cut concepts of ethical conduct, but who are the most miserable people in the world because they realize that within them is no power to fulfill ethical ideals which are plainly before them. Religion, historically and psychologically, furnishes the drawing power enabling man to achieve ethical ideals. The ideals of Jesus, Moses, Paul, or Amos can be surcharged with the high quality of emotion. This emotion can and ought to be hitched to ethical conduct. To bring this to pass, the church and the school ought to get together. Religion without ethics is most dangerous. Ethics without religion is utterly sterile. It is all form without content. In Ohio as elsewhere a great deal of religious as well as educational tragedy will be the order of the day unless these two institutions quit this dogmatism and adopt some sort of correlated program which shall clothe ethical instruction with reality and power.

Now there exists in Ohio an educational tool which offers to state education co-operation in achieving some of the ideas here mentioned. It is the Ohio Council of Religious Education, an organization composed of forty-four units of the Christian Church working harmoniously. It believes that since life is not departmentalized, state education and religious education ought to make a more harmonious approach to the lives of our children and youth. It seeks to project its week-day educational programs upon a high educational level and believes it has reached a reasonably high level. It is projecting co-operatively research of a sound nature in the field of religious education. It is convinced, after several years intensive experimentation, that moral education is not enough. Religion is needed to give dynamic conviction to moral education. It believes that life's program can never be met without religion.

Since the religious educational program of Ohio is not, and

should not be at the present time, supported by state funds, it is obvious that in personnel and financial equipment it cannot compare with the man power and resources of state education, but since ideals of state education cannot be met without the help of religious education, the religious educator most earnestly asks that our schoolteachers, administrative officers, and others who are interested in education join the religious educators in some form of practical service. The State of Ohio is not strong enough to stand in the present hour of stress and test if her foundations are undermined by either ignorance or spiritual death. Only a people characterized by knowledge, upon the one hand, and spiritual imagination, upon the other, can survive the tempest of contemporary life. The religious educator offers all help possible for the spread of knowledge. Will the public school awaken, so that this spiritual imagination shall become a vital reality and that the vision of a better day shall not perish in our midst?

How Much Does Religious Education Cost?

By HUGH HARTSHORNE[3]

In these days of restricted budgets, it behooves churches as well as schools to take account of the relative values of those phases of their work with respect to which some economies are proposed. We do not know the relative value for a church program of a paid director as over against a group of paid workers, of a new gymnasium as over against a summer camp, of heat and light for an evening young people's group as over against railroad fare for a delegate to a summer training school. Yet when a cut in the budget is made, choices must also be made, and unless it is possible to eliminate wastes and save on non-essentials, the essentials must suffer.

Consequently any institution that is seriously committed to its program will need today to ask what this program is costing and whether or not as good or better work might be done at less expense. This is a wholesome situation, and the frank facing of the situation might well result not in serious curtailment, but rather in increased efficiency and consequent increased income.

A study was made of the educational work of 746 churches, all manned by graduates of theological seminaries, and scattered throughout the country, with a preponderance of representatives from north of the Mason and Dixon line. Of these churches, 674 reported at

[3] Yale University.

least one fact about the cost of religious education. Of these 674, some 60 per cent spent nothing whatever on the Sunday school besides the cost of housing it. About 40 per cent spent something, and one church reported an appropriation for one year of $16,000 for religious education. Thirteen churches spent over $2,000 on this work. Perhaps one reason for this startling lack of a sense of responsibility for the educational aspects of church work is due to the lack of emphasis placed upon it by denominational leaders.[4]

Standard A for the Sunday church school gives $1.50 per pupil as a reasonable cost for an efficient church.[5] Only 13 per cent of the churches reporting this item reach this figure. That is, 87 per cent of the churches are below the moderate standard set by the Council.

As compared with churches in the Northeast and the West, the Southern churches spend less in total amount and per pupil. As compared with other denominations, the Congregational churches spend more in total amount and per pupil. Farming communities spend least, and industrial communities spend most. There are notable differences between churches in well-to-do communities and those in poor communities. Thirty-four per cent of the former spend over $1.50 per pupil; 12 per cent of the churches in poor communities and 10 per cent of those in comfortable circumstances reach this figure. But 40 per cent of the comfortable as against 25 per cent of the poor churches spend at least something each year.

So much for actual costs. But these figures need to be seen in relation to other items of expense. The average budget of the churches studied was $11,464.50, of which 21 per cent went to benevolences and 2.9 per cent to religious education. Other studies have reported comparative costs of music and religious education, showing the relatively heavier weighing of the former in the judgment of church committees. In view of the common practice of including Sunday-school work among the charitable enterprises of the church, it is apparent that in the opinion of these churches, charity does not begin at home. This might be a sound view to take were it not for the fact that the whole structure of the church, including its benevolent enterprises, rests upon the quality of its religious education. If this is emasculated, the institution is building on sand.

The median amount of the total raised per member among the well to do is $1.92; among the comfortable, $1.83; and among the poor, $1.84. In the same three groups the percentages spent on be-

[4] The data for this paper were gathered by Mr. E. V. Ehrhart and Miss Helen R. Stearns in connection with a survey of religious education conducted by the author under the auspices of the Institute of Social and Religious Research. The report of the survey is being published jointly by the Institute and the Yale Press.

[5] International Council of Religious Education.

nevolences are 32.5, 31.3, and 28.0, and the medium amounts per pupil spent in this way are 57, 58, and 48 cents. Evidently among the poor churches a larger proportion of the incomes must be spent on supplies than in the other groups; it is a somewhat revealing fact that the amount raised per year per member is only 10 cents more in the well-to-do churches than in the poor churches. Evidently the nickel-a-Sunday tradition is putting an arbitrary limit upon the contributions of the pupils, a high limit for the poor and a low limit for the rich.

One wonders, therefore, whether the financial embarrassments given as an excuse for the cutting of the budgets of even the well-to-do churches are in part, at least, the effects of a type of training in giving which results in a definite sense that a specific and rather small amount of money is all that is expected of any member for the support of church projects. Certainly, this experience with reduced budgets should lead to serious questioning regarding present methods of raising and spending money in our church schools.

Apart from leadership and space, the median cost of religious education per church is $158.60 a year. One fourth of the churches spend less than $80 a year and one fourth spend about $440 or more a year. Per pupil these figures run: median, $1.24; Q_1, $0.78; Q_3, $1.90. The schools are paying their own way and are contributing nearly a third of their income to church benevolences. It is not in the average church, therefore, that the problem of cutting the religious-education budget occurs. The average church has no such budget. Rather is it in the exceptional church that is employing specialized leadership that this paring process is likely to affect efficiency. Let us turn, therefore, to a consideration of the budgets of two or three of these better equipped institutions and point out what may be involved in working out economies of administration.

As a part of the study upon which much of this paper is based, an investigation was made of the general educational efficiency of ten outstanding churches. One section of this investigation in each church consisted of an analysis of costs and wastes. Since these studies were made on the ground and with the extended co-operation of local leaders, they could go further into details than the questionnaire study already reported, particularly into details with regard to wastes.

It was necessary to find out the cost of providing space, light, and heat for educational use, the cost of time spent in leadership, the cost of materials, of replacements, and of depreciation. The cost of unused and destroyed materials had to be included, and the wastes incident to absence, tardiness, interruptions, poor planning, and the like. These costs and wastes could then be figured per pupil, per Sunday, per department, per group, and so on.

In order to uncover these facts it was necessary to examine the church budget. First, all items devoted exclusively to church-school purposes had to be totaled. These included salaries paid to church-school leaders and the moneys paid out for exclusively church-school purposes, or chargeable on account of depreciation. In addition the pro-rata share of church expenses properly assignable to church-school uses must be figured, including total cost of salaries, upkeep, interest, depreciation, and so forth. These of course are separate from expenses no part of which is assignable to religious education.

The pro-rata share to be charged to the church school is determined by computing the amount of use of plant by the church school. This is simply done by counting the number of hours each room or space is used during the entire year and figuring the proportion of this total room hours used for purposes of religious education. Some convenient unit is required for this computation. Strictly this might well be the cubical contents of the smallest space as costs of light and heat are roughly proportional to cubical contents. An approximation may be gained by calling the space heated by one radiator or register a room. Thus a space heated by three radiators is three rooms. The proportion of the total cost of such things as heat, light, and upkeep for the church assignable to the school is the proportion of total room hours used by the school.

The final cost item is the cost of time spent by leaders. This must be discovered by actual records or reports from the leaders themselves. Time spent in preparation and in week-day contacts as well as in actual group work is added for all the leaders and computed in terms of money at some arbitrary figure, such as 50 cents an hour. All these costs are then totaled, and may be compared with costs of other phases of church work on a comparable basis.

The next problem concerns the amount of time and money wasted on fruitless effort. If a pupil is absent, the money and time appropriated to teach him is not applied. So, also, if he is late, he misses part of the benefit provided for him and also interrupts the class when he enters. All sorts of such interruptions occur: attendance taking, collection of records, unnecessary announcements, delays in passing from point to point, disorder which distracts, noise, and just plain incompetence in getting on with the task at hand. All this can be timed by observers, but to avoid basing the computation of such wastes on exceptional circumstances or on erroneous judgments, two observers should be used for each group, and each group should be observed on two Sundays or other sessions. The total time is the enrollment times the length of the session, conveniently expressed in minutes. The total waste is the sum of the minutes wasted by all

pupils for any cause. For purposes of analysis, the different types of work can be separately handled and the separate types can be computed by classes, departments, or groups. To these wastes should be added wastes due to destruction, or lack of use of materials purchased freshly from year to year.

We are now in a position to compute the proportion of total costs which are applied to the purposes for which they were appropriated. As an illustration of what is likely to be found in any church I shall quote here the returns from two churches noted for their efficiency.

Room use was computed in accordance with the plan already outlined. For all the rooms or spaces in the building the figures are: For church uses, 8,651 room hours; for outside uses, 17,256 room hours; for church-school uses, 5,650 room hours; total, 31,558 room hours. Thus the room hours assignable to church-school uses are 17.9 per cent of the total, and this is the percentage of total costs to be allotted to the church school.

The general costs of church maintenance totaled $17,277.96, including clerical, religious, physical, and miscellaneous activities of which the salary item was $8,605.41. Of this total, $10,523.46 was spent for activities in which the school had a share, including $3,364.26 for miscellaneous items, $2,960.16 for physical items, $1,699.04 for clerical items, and $2,500 for depreciation. Of this 17.9 per cent was chargeable to the church school, or $1,883.69.

In addition a total of $446.49 was spent on exclusively church-school needs, such as lessons, postage, and periodicals, a total of 16 items. The director's salary was $2,400. This all yielded a total cash cost of $4,730.18. Time costs totaled, at 50 cents an hour, $3,760.20, which, added to cash costs, made a total cost for the religious-education program of $8,490.38.

Per pupil this amounted to $30.32 a year, or 72 cents a week. Based on attendance figures the cost was $50.54 a year per pupil, or $1.20 a week. The average attendance was 60 per cent. Obviously, 40 per cent of the total cost was wasted through absences. Also, there were the wastes from tardiness, interruptions, and bad planning.

The total time lost thus comes to about 50 per cent, of which 10 per cent is due to tardiness and faulty planning and is presumably reducible. It amounts in cash to an annual loss of $2,365.09, or $56.31 a week, and to nearly twice these figures if the time cost at 50 cents an hour is included.

Church B is a different sort of institution. As against an enrollment of 280 in Church A, Church B reports 841 members under twenty-five years. The whole church is organized as a school and conducts for all a two-hour, Sunday-morning session.

The program is of a rather conventional denominational type with relatively less trained leadership than in Church A, and consequently the school depends upon attendance drives to keep up the interest. Even so the average attendance is only 43 per cent. The average tardiness is 2.5 per cent. Thus attendance alone accounts for a total waste of 59.5 per cent.

The analysis of room use in this church yields the fact that 65 per cent of the total use is assignable to the church school as against 17.9 per cent for Church A. This again adds to the relative cost of religious education in Church B.

The total budget of the church is $10,981.51. Of the items included, varying amounts are spent for the more strictly educational features of the work. The total chargeable directly to the church school is $3,644.99 and the prorated amount of shared expenses is $6,025.37, totaling $9,670.36; that is, in Church B, 88 per cent is spent on religious education, as against 24 per cent for Church A.

The time costs, representing the work of leaders with groups and in preparing for such work, amounts to a total of $6,956.52, at 50 cents an hour. This brings the total cost to $16,626.88.

Stated in terms of per-pupil costs, these totals represent a cost of $19.77 for each person enrolled, or 41 cents a week. In terms of attendance, these figures are respectively $45.30 a year, or 94 cents a week. Thus although the total cost of religious education in Church B is relatively far greater than in Church A, the cost per pupil per week is only 94 cents as against $1.20 for Church A.

No estimate was made in this church of wastes due to bad planning, interruptions, and so forth, so that the total waste, excluding this unknown item, amounts to 59.5 per cent of the cash cost named, or $5,683.92, which is $118.41 a week. The total waste, including the value of time, is $9,893.08 a year, or $206.10 a week. Here the total wastes appear conspicuously greater than in Church A, but since the enrollment is so much greater the cash waste per week per pupil is only 14 cents as against 20 cents for Church A, and the total waste, including time, is 36 cents a week per pupil for School A and 25 cents a week per pupil for School B.

In both schools there appears the need for a reconsideration of the administrative and educational methods with a view to finding some way of bringing to bear on the pupils a larger proportion of the money and effort which is now spent for equipment and in preparation and teaching. Economy should begin at the point where wastes are demonstrably taking place and should lead either to a budget more nearly in keeping with the work actually done or to a more complete and effective use of facilities already on hand.

The Computation and Use of Unit Costs

By DOUGLAS E. SCATES[1]

UNIT COSTS GENERALLY CARRY AN IMPRESSION of definiteness and validity which is seldom justified by their true character. A number of defects which arise in their computation and use are pointed out in the following paragraphs.

Unit costs cannot be any better than the accounting on which they are based, and school-accounting systems are not designed so that cost accounting is one of their primary objectives. The chief purpose of school accounting in the past has been to render an accounting of public money; that is, showing where it has gone and that the expenditures were legal and properly authorized. More recently school accounting has been modified so as to serve the purposes of budget preparation and budget administration. But to yield adequate cost results, which are suitable as a basis for computing unit costs of various kinds, our present accounting systems must undergo changes so as to provide for the following: First, a classification of expenditures which is more refined than that generally in use, which employs categories more useful from the administrative standpoint, and which is so logical, flexible, and practically satisfactory that many school systems will not be forced to depart from it because they regard it as unworkable or absurd; second, the possibility of showing credits against charges that have been made to expenditure accounts; third, all necessary details whereby values rather than expenditures become the basis of accounting (there is no assumption that the latter can be displaced but rather that they must be supplemented); fourth, the extensive accounting and analysis which are essential after the regular accounting for the year has been finished. All other than financial items which enter into unit costs must also be prepared with as great care; for example, the number of pupils, teachers, sessions, school subjects, hours, and other units need to be guarded with great care or significant errors will creep in.

One must be watchful to see that the numerator and denominator which are used to calculate a unit cost are comparable; that is, the divisor should contain only those units, and all of them, which have

[1] Cincinnati public schools.

benefited by the expenditure or costs represented in the numerator. This principle should lead to some expenditures being omitted entirely from the numerator used to obtain gross unit costs. Furthermore, the denominator should contain only units which are homogeneous. We do not include evening-school pupils and summer-school pupils with regular day-school pupils; neither should we include high-school and special-school pupils with elementary-school pupils in a single unit cost. A separate cost should be computed for each of these.

With regard to the use and interpretation of unit costs, there are serious difficulties. All ordinary uses are based on the assumption of a linear relation between costs and the number of units; yet this is seldom if ever the case. In the first place, the basic function is not a linear one; in the second place, costs are discrete in their rise, like stair steps. The safest practice is to base comparisons upon systems which are approximately of the same size.

Unit costs should be calculated specifically for various particular purposes. The different purposes demand different types of unit costs, using different units and different costs. Much error results from ignoring this. Furthermore, the costs which enter into the numerator should be specified in great detail, both for local and for general use. Probably the greatest source of confusion arises because of the lack of an adequate description of the activities and costs that are reflected in a particular unit cost.

Finally, in the interpretation of unit costs, it should be recognized that a local situation is influenced by many factors that are not obvious. Among such are the number of parochial schools, the number of children per adult in the population, the amount of wealth per child, the kind of population, the density of population, the rapidity of growth of a system, and the quality of service being rendered. As yet we know little about how to use such factors adequately in connection with the interpretation of unit costs.

Education and Planning the Economic Order

By HAROLD F. CLARK[2]

EDUCATORS NEED TO BE INTERESTED in planning the economic order, because the economic order is not functioning efficiently today, because education could do much toward making it more efficient. What do we mean when we say that the economic order is not functioning satisfactorily, and what is the evidence for this statement?

[2] Teachers College, Columbia University.

The evidence may be stated concisely: first, there are millions of people unemployed in the United States; second, there are plenty of people who need the things these unemployed people could make; third, there are plenty of factories in which the unemployed could make the things that are needed. We submit this evidence alone as sufficient proof that all is not well with the economic world.

Someone may say that it is a large order to expect education to solve such a difficulty. We believe, however, that if education is to play the part it should in the economic future of America, it will have to play a large part in the solution of this difficulty.

The productive power of American industry is enormous, and if our industrial capacities were operated at their maximum the resulting welfare could be far-reaching. The development of automatic machines has enormously increased the productive capacity of American industry, and at the same time has caused the discharge of thousands of men. If space allowed, glass factories could be described which formerly employed hundreds of men and now operate without a single man. Paint plants could be described in which the material enters the plant at one end and comes out on the other without having been touched by human hands; even the manufacture of automobile frames is virtually automatic in some plants; and chemical plants are moving in that direction rapidly. Manufacturing organizations that five years ago were employing hundreds or even thousands of men, today are employing no men in the operation of machines. All of this makes for an enormous increase in the productive capacity of American industry, but it also makes for fearful occupational maladjustment. It is our contention that the American public school has done nothing to make such industrial changes more fully promote economic welfare.

Between 1920 and 1929 farm production in America increased, and still there was a loss of perhaps two million people on the farms. We are told by competent agricultural engineers that millions of additional people can well be removed from the farms. With fewer people required in manufacturing and fewer in agriculture, many people have pessimistically assumed that large unemployment is necessary. Such a condition need exist only in a society that is not willing to take definite control of its economic development.

Throughout economic history mankind has been struggling to invent machinery that would relieve the burden of labor. Now that we seem to be rapidly approaching the time when we have machines enough to do most of the heavy labor, we are not altogether competent to operate the machines. The productive capacity of American industry would be three or four times the level reached even in 1929

if it produced to the maximum. Is this increased productive capacity to become a curse or blessing to mankind? The answer will largely depend upon what the school system of America does.

The school system becomes a means of continuous occupational adjustment, shifting people from one occupation where they are not needed to another where they are. If education consciously becomes the means of stabilizing our economic life, it may well provide the answer to our economic problems. If education goes on in the traditional way, assuming that its task is to teach reading and arithmetic, it may well become of minor importance to the economic life of the country. It is conceivable that it could become an actual economic curse if it got in the way of proper occupational adjustment.

There is no doubt that there is plenty of work in the world that needs to be done. The entire question becomes, Can we evolve social machinery that will divide up all the work that needs to be done among all the people? If such is done, unemployment is obviously impossible. If everything that needs to be done in the world—production of all food, clothing and shelter, of all health, education and recreational activities, of all the music and painting, and all of everything else that needs to be done—can be accomplished by everyone working six or even four hours a day, no one would be unemployed.

To reach this ideal is probably beyond any social machinery that can be invented in the lifetime of the present generation, but certainly the schools can play a significant part in working toward this end in the near future. We do not say that planning and replanning of occupational distribution alone would solve the economic problem as it is today; however, it might be a substantial step even in doing that. If the schools definitely took over this task and supplemented it by an adequate program of instruction dealing with economic planning and control, there is no reason to think that we could not soon build a society that could control its economic evolution.

Would this lead to the destruction of American political and economic institutions as we have known them? I, for one, do not think that it would, but I do think that it would mean the building of a long and important list of supplementary institutions of control. There is no reason for us to believe that, when our political institutions were evolved, the final and ultimate step in the development of instruments of social control were invented. Our political institutions may be the best the human race has evolved up to the present time (and for purposes of bringing about political liberty I am inclined to think that they are); however, they were not designed to bring economic liberty and to expect them to do so is inevitably to be disappointed.

It seems to me what we in America need is to keep our institutions that have brought political liberty and to build a parallel set of institutions that will bring our economic liberty.

In the future in no society that calls itself civilized will economic liberty be of less importance than political liberty, and certainly the corner stone of this economic liberty must be a guaranty of work for every man. It has been clearly stated by many people that the right to vote without a guaranty of a job is a futile gesture toward liberty.

We would argue the necessity, then, of new and adequate instruments of control even on the grounds of liberty, and if the schools are to play a significant part in the economic development of the future, they will have to show the children of America the possibility of building this new economic world. It will be a world of enormous productivity, a world in which the welfare of the average man might well be two or three or four times that of the average man in our highest peak of prosperity in the past. It will be a world in which unemployment is impossible for anyone who wants to work. It will be a world that is planned to be beautiful in all of its aspects, its farms, its factories, its roads, its houses, its parks, and its public buildings.

To bring about this world the curriculum of the American public schools will have to be radically changed. The problems of planning and remaking of cities, of rural co-operation, of economic control will have to become the central part of the curriculum for our entire school system, both elementary and secondary.

If this group is interested in having the schools contribute to the economic welfare of America to the greatest degree, I submit for your consideration the possibility of making the schools the instruments for the economic planning and control of the future. In particular, I urge the necessity of each school district, each county, and each state developing a plan of what should be the distribution among occupations in that territory. Once this were done the schools could train the proper number of people for each occupation. This would go far toward abolishing unemployment, and if the schools seriously undertook the task of economic planning, they could go far in guaranteeing the increasing and continued economic welfare of the country.

The High-School Librarian Meets Her Problems

By B. LAMAR JOHNSON[1]

IN THIS PAPER I SHALL TELL a few of the findings of the library investigation which is a part of the National Survey of Secondary Education. This brief discussion does not purpose to report any major portion of the survey of secondary-school libraries but rather to present certain features of library service which are only one phase of the findings of the entire study.[2] The chief purpose of the survey of high-school libraries was to locate and describe activities and devices being used in outstanding secondary-school libraries. Early in the survey, groups of people acquainted with school libraries in the various sections of the nation were asked to report the names of high schools having unusual library service. To 620 schools thus recommended inquiry forms were sent asking each to report regarding the school library, its administration, its equipment, and its staff. Throughout the inquiry form, emphasis was given to the fact that mention and description of innovations in the service of the high-school library and its administration were particularly desired. Inquiry forms were returned by 390 schools located in 46 states and the District of Columbia. These forms were studied carefully for the purpose of locating noteworthy practices. By this means 44 schools in 15 states were selected to be visited. Usually one day was spent in each school, and every effort was made to get information regarding devices and activities reported to be helpful in the solution of the problems which are being faced by high-school librarians.

In all types of schools and in all sections of the nation, school librarians are facing the challenge of encouraging and guiding pupils' recreational reading. Just how is this problem being met? Book displays, the posting of book jackets, and the use of posters for advertising books are the devices for encouraging recreational reading most often reported by the libraries included in this study. These activities offer opportunity for the use of originality and are reported to be used with much success in many libraries.

[1] Stephens College.

[2] The complete report will be published by the United States Office of Education.

At Hutchins Intermediate School, Detroit, interesting exhibits are used centering around famous men and women whose birthdays occur during a given month. For example, pictures, famous sayings, and biographies combine to make most interesting the display centered around April birthdays. Somewhat different from this is the birthday bulletin board in the library of the South Philadelphia High School for Girls. This bulletin board is used for displaying clippings and pictures of noted men and women on their birthdays. To assist in caring for this display, there is a card file of the names of all men and women regarding whom the library has clippings or illustrative materials. Reference to the cards in this file determines the materials available for those whose birthdays fall on any day.

A number of libraries emphasize the value of personal contact with pupils. The librarian at Girls' High School, Brooklyn, for example, stresses the importance of chatting with pupils when they borrow or return books. Other librarians point out the advantages of offering casual suggestions to pupils as they browse among the books on the open shelves of the library. At Lake Junior High School, Denver, the librarian gives book talks to the various home-room groups in the school. Home-room teachers in many schools would undoubtedly welcome talks by librarians who are interested in books and are alive to the possibilities of selling the resources of the library to secondary-school pupils.

A number of librarians give book talks to English classes. At South High School, Denver, the librarian is frequently invited to read poetry before the English classes of the school. The librarian at East High School, Denver, gives talks before the various clubs of the school in an effort to interest pupils in library materials which are related to their club activities.

Teachers in the high schools at West Allis, Wisconsin, and at Bronxville, New York, frequently bring their pupils to the library during the home-room period. The pupils spend the periods in doing recreational reading. Reports from both of these schools indicate that the use of the home-room period as a time for free reading in the library does much to encourage non-required reading.

An unusual project is reported by the Bronxville High School where the librarian arranged an exhibit of bookplates. Pupils who had bookplates brought them; a large number of pupils contributed their parents' bookplates; and teachers in the school supplied their bookplates. This exhibit aroused much interest among the pupils of the school.

In the Stevenson Room of the Cleveland Public Library, reviews or short statements are pasted on the inside covers of many books.

The librarian in charge reports that the young people who use the room seem to borrow books having these statements more often than books without such statements. If this device assists library patrons in selecting books to read, it seems that it might well be used in school libraries.

An interesting and valuable hobby for the school librarian is that of collecting autographs. The librarian at Hutchins Intermediate School, Detroit, has a remarkable collection of autographs and autographed books around which she builds book displays. A significant feature of the plan is the librarian's success in having pupils participate in the collection of autographs. For example, during a visit of Grenfell to Detroit, members of the school's library club attended his lecture and secured his autograph. The fact that the autograph belonged to them made the pupils take a particular interest in the exhibition of Grenfell's books which they arranged. The problem of recreational reading merits and is receiving much attention and study on the part of high-school librarians. It represents, however, only one phase of the school librarian's work.

A second problem which school librarians are meeting is that caused by the important changes which are taking place in the methods of classroom teaching. No longer are courses based upon single textbooks. The Dalton plan, the Morrison technique, the contract method, and various plans of supervised study place a new emphasis upon the use of books, and in many cases pupils must be given access to books during the class period. This requirement is a challenge which high-school libraries are meeting in various ways.

Classroom libraries have been set up in many schools. At the University of Chicago High School, where the Morrison technique was first developed and applied, an extensive system of classroom libraries has been developed as a means of placing books at the disposal of pupils during class periods. At Denver an interesting substitute for the classroom library has been devised. Instead of deciding to establish classroom libraries throughout the school system, the Denver school administration during 1930–31 placed libraries in two classrooms of each senior high school. The purpose of these libraries was to give the classroom library a trial and to try out various methods of administering it. The results of this experiment will be watched with interest by school librarians in all sections of the country.

At the R. J. Reynolds High School, Winston-Salem, North Carolina, where a modified form of the contract method is used, the library lends books to the classroom for a day or for part of a day.

At least a day ahead of time, teachers notify the librarian of the books they will need. The librarian then groups the books requested and sends them to the classroom. The extent to which books are thus circulated is indicated by the fact that during the first six months of the 1930–31 school year the circulation of books to classrooms totaled 28,798.

A large number of schools report that entire classes come to the library during their class periods. Pupils in other schools leave classes in groups and come to the library. Frequently these pupils work on group projects, and if the library has conference rooms they are used. For example, at the Hutchins Intermediate School, Detroit, a school in which pupils have no vacant periods, groups frequently go to the library from classrooms. The seven conference rooms directly connected with the library are often used by these groups of pupils.

The high school at Jackson, Michigan, has a library classroom directly connected with the library. Any teacher who wishes to conduct supervised study may bring his class to this classroom, where books that are needed will be brought for the period.

A number of departmental libraries have been organized at the J. E. Brown Junior High School, Atlanta, Georgia. Classes in the departments having these libraries are scheduled on a rotating basis, each class meeting in its departmental library from one to three times a week, the teachers conducting supervised study on the days their classes use the departmental libraries.

In addition to the problem of providing pupils with books during the class period, the librarian is confronted with another difficulty which is related to the newer methods of classroom teaching. In most schools a favorite type of project is the making of booklets relating to the units of work being studied. Such booklets are much improved if they include appropriate illustrations. As a result, pupils often cut up library books and magazines to get desired pictures for their booklets. In many schools this situation is creating a serious problem. A number of librarians request the co-operation of teachers in discouraging such destruction of library materials. Three school libraries supply the pupils with old magazines from which they may cut pictures. The librarian at Ballard High School, Seattle, asked one of the clubs of the city to send her its old magazines; this provided the library with a most useful set of magazines which the pupils used in making booklets.

Closely related to the problem of adapting the library to the newer methods of classroom teaching is a third problem; namely, that of encouraging teachers to make effective use of the library. In

any school, the quality of library service depends largely upon the interest and co-operation of teachers. If teachers are not led to make effective use of library materials, the school library can at best achieve only a small measure of success. Librarians co-operating in this study reported a number of activities which indicate that they are making conscious efforts to interest teachers in the school library and to inform them of its resources.

Knowing teachers, their needs, and their interests is a fundamental part of school-library service. Such other devices as are reported for encouraging teachers to make effective use of the library must be regarded as supplementary to this basic requirement. Notifying teachers of new materials received by the library, supplying teachers with bibliographies of library materials related to the subjects they teach, and inviting teachers to suggest books to be ordered for the library are devices which many librarians use.

A number of librarians prepare, at regular intervals, a library news bulletin which is mimeographed and distributed to teachers. At the South Philadelphia High School for Girls, library news notes are often included in the bulletin regularly sent to teachers by the principal. In one of the Detroit junior high schools a form is sent to each teacher weekly, asking what help the library can give.

In the high-school library at Bronxville weekly teas for teachers are held. The attendance at these teas is good, and the librarian has an excellent opportunity to bring materials of interest to the attention of various teachers. At East High School, Denver, departmental teas are held in the library. During each tea books particularly interesting to the department concerned are displayed.

At Fairfax High School, Los Angeles, a teacher in each department is assigned to the library for one period every day. This period is spent in analyzing books of value for the department to which the teacher belongs. Duplicate copies of these analytical cards are made, one for the library and one for the department office. This does much to acquaint the teachers with the resources of the library.

The librarian at the J. E. Brown Junior High School, Atlanta, listed the books in the library which were being used but little. The books so listed were classified according to the departments in which they might be used, and to each teacher in the school was sent a list of little-used books which he might find helpful in his work.

At Omaha Technical High School, new library books are exhibited in the faculty reading room for one week before they are placed in circulation. One librarian reports exhibiting new books at faculty meetings. At Girls' High School, Brooklyn, five minutes of each faculty meeting is given to the librarian. During this period she tells

the faculty of new materials in the library and any features of library service to which she may wish to draw their attention. From time to time in this same school, an entire faculty meeting is given over to a discussion of the school library, its resources, and its use.

The librarian of the junior high school at Cleveland made an interesting study of the number of pupils sent to the library by the various teachers in the school. In this particular school a pupil is admitted to the library by a slip signed by the teacher of the class for which he is to do library work. The data gathered indicated that during the week one teacher sent three hundred pupils to the library; another had sent only four pupils to the library during the same length of time. This study formed the basis for an interesting discussion at a faculty meeting during which the principal emphasized the value of having pupils use the library. The librarian states that the results of this study and of the faculty discussion were apparent.

A problem somewhat more specific than those which we have thus far discussed is that of admitting pupils to the library. School librarians everywhere bemoan the existence of situations which make it necessary for them to spend much time signing permit and admit slips. A number of schools report plans whereby the routines in connection with library attendance have been reduced to a minimum for librarians, for teachers, and for pupils.

At the high school at Princeton, New Jersey, pupils go to the library without receiving permission from anyone. The teacher in charge of the study hall takes attendance there. She then brings to the library a list of the names of those who are absent from the study hall and checks off the names of those who are in the library. This method is reported to work satisfactorily: the pupils have ready access to the library; the librarian is not burdened with attendance routine; and the study-hall teachers find the system less burdensome than that which requires them to sign a slip for each pupil who wishes to go to the library.

At Ballard High School, Seattle, where the library and the study hall are directly connected by a door, pupils may go to the library without asking permission. The pupils are, however, required to be in the study hall at the opening of the period so that attendance may be taken there. This arrangement is convenient for the pupils and requires but little routine work upon the part of the librarian.

Five schools report that pupils may go to the library without restrictions and that attendance is checked neither in the library nor in the study hall. The chief problem which might arise in the use of this method is that which results from the freedom given the pupils.

Three of the schools which allow pupils this freedom were visited during the investigation: in each of these schools the principal and the librarian united in stating that the pupils have cut the library and the study hall no more frequently since the introduction of this system than before. South High School, Denver, granted the pupils complete freedom with regard to attendance in the library and the study hall eight and one-half months before the school was visited for the purpose of studying its library. The principal reported that he had been ready to return to the system of having admission slips at any time should conditions demand such a change. No such change had been required, however.

In the fall of 1930, the pupils of the Westmont-Upper Yoder High School, Johnstown, Pennsylvania, were given the privilege of going to and from the library and the study hall at will. Before deciding to take this step, the principal of the school conferred with leaders of the student-government body and with leaders of other extra-curricular organizations, asking them if they believed the pupils could assume the responsibilities which such freedom would place upon them. After some discussion among themselves the pupils requested the privilege of trying the plan. The attitude of the school administration has been to continue this practice as long as the student body proves worthy of the privileges. Throughout the year, librarian, principal, and teachers report that the new freedom has not been abused, that it has helped the school morale, and that it has encouraged the use of the school library.

Librarians of a number of schools in which the library and the study hall are combined report that the duties of maintaining discipline are burdensome. In four schools, this problem is met by having one or more teachers assigned to duty in the library each period of the day. These teachers check attendance and care for any disciplinary problems which may arise, thus permitting the librarian to devote her entire time to library work. This arrangement is reported to be successful in schools as large as Omaha Technical School with an enrollment of three thousand pupils and in schools as small as the high school at Elk River, Minnesota, with two hundred pupils.

A number of librarians report that their principals are not acquainted with the libraries in their schools and that they do not realize the importance of the school library. The librarian in one high school reports that a number of years ago she voluntarily began making monthly reports to the principal of her school. These reports included data regarding circulation, attendance, and accessions. A feature of the report which is always emphasized is the description

of interesting library projects and activities carried on during the month. The frequency of these reports and their interesting contents are reported to have done much to interest the principal in the library and to make him realize its achievements and its needs.

The problems I have mentioned are but a few of those which high-school librarians are meeting. In the report of this study data are presented regarding many other questions which might well be discussed in this paper if time permitted. How do high-school librarians co-operate with other libraries, the public library, the county library, the state library? How many schools have the study hall combined with the library? What is the influence of the combined library and study hall upon the use of library materials by pupils? How are pupil assistants selected? How are they trained? What are their duties? What plans are reported to be successful in providing adequate library service for the small high school? What suggestions do high-school teachers offer for the improvement of the school library service? What are teachers doing to encourage their pupils to use the library?

The place of the secondary-school librarian is a challenging one. She must work with the pupils; she must gain the co-operation of the faculty; and at times she must sell the library to the school administrator. Study of the data gathered during this study emphasizes the fact that many high-school librarians are making most significant progress in these and other directions.

The Use of the High-School Library

By G. H. REAVIS[3]

EFFICIENT TEACHING of approximately one-half of all high-school subjects involves extensive use of library material. A large group of subjects with either a drill content or laboratory accompaniment may be well taught without wide reading; but unless textbooks in the content subjects are supplemented and enriched by extensive readings the class work is almost sure to fall to a low level. So important is this that the teacher who gets a good day's work out of her pupils and interests them in their work is almost sure to urge extensive use of the school library, to follow a satisfactory teaching technique, and to maintain good standards of scholarship. Interest grows out of work well done and is stimulated by a realization of accomplishment.

It is easier to get good work out of pupils in some subjects than

[3] Ohio Department of Education.

in others. The easiest subject of all is bookkeeping; Latin, mathematics, physics, chemistry, and the other subjects with a large element of drill are next in order. The hardest subjects are the content subjects, including, particularly, the social sciences and some phases of English. A high school falling below standard in its classroom work usually lets down first in those subjects which involve extensive use of library material. As a result, the use of the library becomes a barometer of the educational program, and when one desires to make a brief survey of the instruction in a large high school, the library is a good place to begin.

In visiting a school library one notes the size and equipment of its quarters as well as the collection of books. Since a library cannot administer itself, one notes the apparent competency of the library staff. In inspecting a large high school I devote approximately one day to each thousand pupils. As this allows time to visit and study only about one-third of the teachers, I select the extremes from several classifications, such as the lowest and highest paid, the newcomers and those near the retiring age, those getting the most work out of pupils and those getting the least.

In a search for extremes I ask the librarian to estimate roughly the use the pupils of each teacher make of the library; I find this is a significant index of teaching efficiency in those courses which involve much use of library material. Constant handling of pupils acquaints the reference librarian with assignments and requirements of individual teachers. She can estimate with considerable accuracy the use various teachers make of the library. I check regularly on the use of the library as a part of my working technique in large schools and although the usefulness of this measure varies with the ability of the librarian and the importance of the library in the program of the particular school, it is as useful as any other device I have.

The principal's judgment of a teacher is often influenced by the service she renders outside the classroom, or by other considerations. The librarian knows the teacher chiefly through the work of her pupils. I usually examine closely both by observation and by oral quiz the classes of teachers in regard to whom I have conflicting evidence. I have also asked numerous classes in content subjects to estimate the amount of material read in relation to the amount in the textbook. The close correlation of the estimates made by the librarians and by the pupils is surprising.

The educational program in a large high school is usually as good as the use made of its library, and the analysis of any high school includes a consideration of the administrative handicaps of the library; for example, the movement to lengthen the recitation period, to

increase the number of recitations, and to extend the program of extra-curricular activities, eliminates time the pupil formerly devoted to library work during the school day. To be successful, this type of organization must modify the traditional library scheme by installing classroom libraries, or make other provision to have the necessary material at hand when it is needed. It is not enough merely to have library facilities in the school. They should be easily accessible, and the high-school program should be organized so as to promote their use. The classroom teacher can then be held responsible for making use of the library, and most teachers respond properly when conditions are favorable. Because the school library is an essential part of the educational program, an effort should be made to maintain the library staff even though it is necessary for the sake of economy to raise the quota of pupils allotted to each teacher.

Observations on German Universities

By CARL WITTKE[1]

THE EDUCATIONAL SYSTEM OF GERMANY was affected profoundly by the German Revolution of 1918 and the later establishment of a republican form of government. The combination of teaching and research, a pre-war conception of the German university, has, however, been carried over into the new order. Since the war, the enrollment in the German universities has increased rapidly, and the number of students self-supporting, either in whole or in part, has likewise increased. With this enlarged enrollment come problems which will affect the moral fiber of the nation, such as partial state support for the needy student; the possible lowering of the standards of the university; and the thousands of graduates who will be unable to find a means of livelihood.

The students in the German universities are greatly interested in politics. Student communist and Nazi riots; lecture-room demonstrations at any reference to the present state of political affairs; student strikes resulting from derogatory mention of Germany's part in the war; all are part of the indications of this interest.

Two traditions of the German university, *Lehrfreiheit*, which guarantees complete freedom of teaching to the professor, and *Lernfreiheit*, which gives to the students the right to select their own professors and, indeed, their own universities, have been retained. Since there is no complicated accumulation of credits, the system does not become involved, as it would in America, and the universities remain, essentially, a corporation of students, teachers, and research workers.

The German professor receives, in addition to his salary, the fees students pay to listen to his lectures. This has served to retain the brilliant professor in the educational field. It has also led to abuses. Men long past their prime cling to large lecture classes in order to keep a monopoly of these student fees.

Because of the war years and the years of inflation and deflation which followed, German higher education has been seriously affected. Professors have been forced to take on extra burdens; building pro-

[1] Ohio State University.

grams have been retarded; libraries have been unable to continue their collections; and the institution of the *Privatdozent*, called by Flexner "the nursery of German scholarship," is in grave danger of extinction.

The addition of vocational courses to the cultural ones has brought about confusion of ideals. Moreover, there is a vigorous discussion of ways and means to protect the purity and sanctity of the Ph.D., which, it is claimed, is rapidly being reduced to a joke in some institutions.

A growing feeling is to be found in the German universities that closer cultural contacts should be established with the United States, and that the serious study of American history should be introduced in their university curriculums. The feeling has come about, at least in part, because of the financial aid they have received from America in these difficult times. In a world as torn as ours is today, the genuine tribute of German scholars to their American benefactors may serve as a ray of hope to those who refuse to give up the dream of a better international understanding.

Searching for the Educationally Functional in the Social Studies

By DAVID SNEDDEN[2]

THE SOCIAL STUDIES INCLUDE ALL HISTORIES, as well as all the social sciences in the more specific sense. The social sciences include economics, politics, "familistics," anthropology, ethnology, ecology, human geography, and the like, and also sociology, as a kind of inclusive social science akin to biology. Educators are especially concerned to discover what "takings" from these social sciences will prove valuably functional in, for example, the elementary-school grades, the junior high-school grades, the senior high-school grades, the liberal colleges, vocational schools of salesmanship or other vocations, or correspondence courses for adults.

It is obvious that the possible learnings to be achieved in all or any of the branches of the social studies are nearly limitless. American histories now run to millions of pages. Published histories, biographies, narratives, archives, and the like on England during the sixteenth century run to hundreds of thousands of pages. Any able mind could devote years to study of the histories of Palestine, Spain, Mexico, or Japan and be then only partly acquainted with his subject.

[2] Teachers College, Columbia University.

Almost endless, too, are modern accumulations of published scientific information in the field of human geography. Explorers, interpreters, and scientific controllers give us innumerable articles and books—on China, on polygamy, on spice culture, on wheat shipping, on jungle dwelling, on crowded cities, on deserts, on polar ice caps—which directly or indirectly describe and interpret and improve the relations of man to his earth.

The more strictly social sciences—political science or politics, political economy or economics, sociology, anthropology, and others not yet well named ("familistics," "religionistics," "coterieistics," and others), though mostly of modern origin, now pile up mountains of materials—researches, popular interpretations, and descriptions. Out of these mountains of ore what extracts can we make as means to the desirable and practicable objectives of school-directed learnings at various age and ability levels?

We shall make little progress toward solutions of these problems until we find ourselves in considerable agreement as to, first, What are certain fairly homogeneous areas of human (eudemic) values to be procured through school educations? "Good health" is such an area, for example. We can ask, Will studies of early American history probably contribute to the good health during the next fifty years of those who are our pupils today? The ready answer is "no." "Good training for the bricklayer's trade" is another such area. We can ask: Will junior high-school study of simple political science contribute usefully to success in that vocation? Probably, "no." "Persistent intellectual interests in some fields of past human achievement" might be such an area. Will high-school studies of ancient histories feed such interest? Often, "yes" will be the answer. "Good citizenship" in the narrow sense of well-intentioned, well-informed sharings in political activities, political government, is such an area. Will junior high-school study of the history of American slavery contribute to that? The present writer estimates "hardly at all." Will study of the complexities of present-day interstate commerce? He estimates "very much," especially for the abler minds.

The social studies have little or nothing to contribute to the following areas of values with which progressive schools and colleges must be increasingly concerned: the "body-development" values as division A of the larger category of "physical well-being values"—well-developed hearts, digestions, masticatory apparatus, and feet; and the "sickness preventing" and "sickness curing" values as division B of the larger category of "physical-welfare values"—personal hygiene, use of medical service, freedom from health superstitions, and the like. Certain collective safeguards of health—sanitation,

quarantine, public-health service—are excluded from these and are included in a later class of politics—achieved or to be achieved governmental values.

The "vocational success" values are obtainable for nearly all vocations—farming, clerical, medical, trade, and factory work. A few vocations—city manager, army officer, policeman, public-school teacher, prison keeper, and the like—will require social-science preparations, but so specialized that they should only be given in the specialized vocational school or apprenticeship.

There is one area of human or eudemic values, not well differentiated as yet, to which this writer believes that history and geographic studies are or can be made especially contributive; that is, the division of cultural values which is here designated "spiritual cultural." As here interpreted, this is an area of values where "knowledge for its own sake" controls. Here we seek satisfactions of our higher curiosities, quite without regard for any health or vocational success or political citizenship or other "practical" ends to be served. As an example: many Americans now take keen delight in reading books, following researches, seeing pictures, and otherwise informing themselves about the explorations and frontier settlings which took place in our country from 1600 to 1850, let us say.

Such intellectual interests are primarily cultural—and "spiritally cultural" rather than "euthenically cultural" at that. They can serve no visibly "practical" purpose—yet how entrancing, how spiritually nourishing, how uplifting they are—and how the more prosaic of us envy the men and women whose lives are so visibly enriched and purified by them?

There is another area of eudemic values to which we should all expect simple political-science studies to contribute; namely, good political-group membership. "Good political membership" must always involve many intelligent co-operations on the conformist, passive, or obedience sides—even in the Italy of today, the Rome of the Emperors, Stalin's Russia, or in Japan. But in the United States, as in other democratically governed countries, we also give to nearly all persons over twenty-one years of age theoretically equal shares in the dynamic, policy-determining, representative-choosing, public-works-supervising functions of government.

Many able persons think that these dynamic, positive civic functions are poorly discharged by the large majority of our adult men and women. In our town and city governments we as collective employers permit some corruption and much low-grade efficiency. The representatives we collectively send as delegates to our state legislatures seem open to criticism in many ways—they may seem

incompetent, timid, excessively partisan, and seeking personal advantage. Statesmen of foreign countries allege that they can do little effective business of international value with our national government because our Congress "now blows hot, now cold," and is not to be trusted to reflect national consistency in important matters.

The present writer is not ready to indorse these adverse valuations of American co-operative lawmaking, law-enforcing, and public-works operation. He thinks we Americans are probably getting as good government as our highly democratic, rule-by-majorities, and party-controlled politics permit, at the level of popular educations which we have reached. Probably any highly democratic human organization—a family, a church, a school, a corporation, a trade-union no less than a town, a city, a state, a nation, or even a League of Nations—must pay various high prices in visible, and especially material, efficiencies for the sake of being a democratic organization and so enhancing, supposedly, personality or individualistic values.

Large proportions of American lay as well as educational leaders are now convinced that our schools can be greatly improved as respects their contributions to better political membership. The present writer not only believes in those possibilities, but is convinced that concerted effort on the part of especially qualified educators and social scientists can presently evolve objectives, means, and methods to that end. As one contribution toward stimulating thought and discussion in this and related fields he submits as hypotheses the following contentions which now seem to him largely true:

The secondary-school period, that is, the six grades from the seventh to the twelfth, or in more flexible and sensible schools, all of ages between twelve and eighteen, will be for some decades to come our richest areas of exploration and achievement in purposed civic education. Here our children are expanding rapidly beyond their household-centered or family-centered social groupings. They are becoming keenly alive to good and bad membership in coterie, school-formed, and local community societies. They are becoming aware intellectually, though not so sensitive as actual members, of trade-unions, corporations, political parties, governments, nations, and the like. Under good teaching they can acquire many fairly vital appreciations of remote historic events, of "how the other half lives." Here we can especially develop valuable comprehensions through simplified, concrete, case-study adaptations of the social sciences. The elementary-school period, that is, under twelve years of age, may yet prove to be a favorable one for the inculcation of a few really functional civic idealisms or emotionalized valuations, as has long been witnessed in the fairly concrete area of "patriotic," "flag re-

specting," "soldier-serving" civic valuations. On the other hand, the present writer is highly skeptical of the abilities of even exceptionally competent educators to produce really functional, that is, functional in later years, civic comprehensions or civic-service ideals during these tender years when the child's conscious civic memberships are so few and abstract.

The term "social studies," less often, "social sciences," now usually includes the history and the human geography studies. Even in the lowest grades adaptations of these studies can be made which will be of great cultural value. But the present writer is skeptical as to whether any considerable really functional civic learnings are to be derived from any but a few areas of either histories or geographies. It is his matured opinion, for example, that histories more remote than the latest fifty years can yield practically no really functional civic insights or ideals, so many are the new political conditions which have appeared as effects of modern political and other social evolutions. The histories of colonial or frontier settlement of the present territory of the United States are filled with materials of great cultural significance, but, it is here contended, substantially nothing can be derived from such histories toward producing the comprehensions, ideals, or other qualities which will be acutely needed by Americans in improving their dynamic and conformist political memberships from 1940 to 1980.

The same would seem to be true of most of the geography now so richly filling our textbooks. All of it may have cultural interest, significance, and functioning for at least some learners. But how much of it can be functional toward civic comprehensions? If we take that division of civistic qualities which relates to international understanding or the idealization of friendliness, there are certain geographical areas—Cuba, Mexico, Canada, Japan, Great Britain and within these a certain few aspects only—which, learned about, might later prove functional in improved civic relationship.

Space does not here permit any analysis of what the writer believes to be the promising means of the civic educations of the future. But it is clear that the social sciences, specifically interpreted through current events and case studies of recent or current political situations, are going to constitute our really valuable means to civic education.

The Visiting Teacher's Contribution

By ELIZABETH ALLING[1]

VISITING TEACHERS MAY WELL PAY HOMAGE to the ideals and achievements of the leaders of special education who have arranged educational programs for the groups of children who were least able to profit from ordinary school procedures. In spite of the physical and mental limitations of some of these groups, their programs have been broadened rather than limited, and more physical diagnosis and therapy have been provided. Special-class teachers have demonstrated to school systems that apathy and even bad behavior usually yield to programs based upon an understanding of the child. They have convinced the school authorities, and to some degree the public, that these programs are possible only when groups are kept small. Their work has without doubt stimulated the desire in school systems for a better understanding and adjustment of individual children, in all school classes, who present the obvious problems of scholarship, personality, behavior, and home environment.

The visiting teacher is one answer to this desire. Instead of a group of children with a common problem, such as poor vision or hearing or a variation from average intelligence, she has referred to her a number of children whose only common characteristic is poor adjustment in their present situation. Because of the variety of problems presented, her first step is a careful and friendly diagnosis. The child's actions are regarded as symptoms. Causes are sought in the physical, mental, and emotional endowment and conditions of the child himself, in his former experiences, in home environment, and in his associations with various groups. As she discovers connections between these circumstances and the child's reactions in school, she gives her interpretation to the school. She interprets the situation also to the child and to the parents as far as she finds that this will help in treatment. She plans with the school and the family and supplements their efforts to meet the child's needs by her personal work and by securing help from community agencies.

The differences in daily programs of the teacher and the visiting teacher and the variations in their training and experience make it

[1] Cincinnati public schools.

possible for the visiting teacher to thus supplement the school. She can visit the home more often than the teacher; her training has emphasized the treatment of social and emotional problems in children and parents, which so often underlie the educational problems; and she is familiar with the resources and procedures of social agencies, recreational organizations, informal educational opportunities, clinics, and even courts.

Because of their experience with the personality and behavior problems about which all live teachers are becoming more concerned and because of their more specialized training in mental hygiene and social work, visiting teachers are teaching summer courses or extension courses for teachers in a number of normal schools and universities. This study of case material from the schoolroom and discussion of treatment inside and outside the school has helped the teachers in these classes to solve some problems and prevent others.

These are the general ways in which visiting teachers are carrying on special-education ideals. Have they particular contributions to special classes? They are usually assigned on the basis of school buildings. Special classes within the building secure their service as do the other class groups by referring the children most in need of their case work. Visiting teachers do some recruiting for these classes since they find among the children referred to them from the general school population hitherto unsuspected candidates for special classes. They help in the practical and emotional home adjustments necessary in starting these individual children so that they may enter your classes ready to develop under your program. They continue their work with the child and home when this is needed.

What Shall We Do with the Gifted?

By MRS. DOROTHY E. NORRIS[2]

The grouping of individual pupils on the basis of mental ability, as it is practiced at Cleveland, functions to the great advantage of the individual pupil. Courses of study based on the idea of acceleration alone tend to force development vertically. Some educators believe this plan saves time for the pupils, but they question whether or not it lifts them to higher educational attainment. Often an entirely unnatural and unsocial atmosphere is created in the attempt to further the academic progress of a superior child, for while he is able to read and do problems in arithmetic as well as children two

[2] Assistant Supervisor of Special Classes for Gifted Children, Cleveland.

and three years older than he, he does not have the physiological or social development of his older playmates. He never excels on the playground, because he is trying to compete in baseball, football, and all other games with boys two and three years older than he, nor does he make adjustment socially because he feels himself superior.

Educators are returning to the old Froebelian theory of education —education of the whole child. If the whole child is to be educated, it means social development as well as mental development. That means that the bright child must be kept with children of his own age so that he can associate with them on the playground where fair play and fair competition will be assured. How to do these things and at the same time keep the bright child busy enough to keep him from forming habits of laziness led to the development of enrichment classes at Cleveland, which are characterized by no special process or method peculiar to any one particular type of education, but rather a combination of the best things known about teaching to meet the individual needs of exceptional children.

Cleveland's interest in the education of gifted children dates back to October, 1920. Henry H. Goddard, professor of abnormal and clinical psychology, at Ohio State University, acted as the adviser to the teachers, and members of the Women's City Club sponsored the experiment. Finally, the Cleveland Board of Education expressed its willingness to organize the so-called "major-work classes." A great part of the enriched course of study is possible because of maximum curricular equipment. Each room has its maps, globes, encyclopedias, sets of the newest and best books, typewriters, curtains, rugs, aquariums, ferneries, beautiful pictures, and bits of pottery. The funds for this equipment and for the many excursions made by pupils to places which have social and cultural influence are furnished by the Women's City Club of Cleveland.

At present there are 19 major-work classes in 12 elementary schools with an enrollment of approximately 550 children. The greatest number of classes housed in any one school is four; they range from Grades I to VI. There are 18 classes in 5 junior high schools, enrolling 625 pupils in Grades VII-B to IX-A. West High School is the only senior high school at the present time which has kept major-work pupils together as such.

The principles governing the selection of these children are determined by the organization set up within the school system. Each semester in the Cleveland public schools there are a series of classification tests given to all pupils in the kindergarten and in Grades I-A, III-A, and VI-A. These test results furnish a probable learning rate for each pupil. It is generally recognized that emotions, reactions,

special traits of character, physical health, teacher's attitude, and a multitude of other conditions may influence a pupil's test results. If there is any question about the results of any test, a re-test is made. When a pupil makes a probable learning rate of 125 or more, he is referred to the Psychological Clinic for an individual Binet test. Other signs of ability, as unusual success in two or more subjects, are considered reason for an individual test. If the resulting intelligence quotient is 125 or more, he is considered eligible as a candidate for a major-work class, in which he will be permitted to carry a greater curriculum than the one offered in the average elementary-school class.

Some of the methods of enrichment employed in the Cleveland major-work groups are: providing opportunities for intensive work in the fields of language and literature; special instruction in the field of art; classes in French; classes in typewriting; and special projects such as the writing and producing of plays. In the field of language and literature numerous occasions are provided for every type of written composition; there are reports to be given in the history and geography classes; reviews to be made for the book clubs; plays to be written and produced for parents' day and mothers' meetings; news to be gathered; and editorials to be written.

The Social Significance of Special Education

By HERBERT S. WEET[3]

How far the returns to society justify the expenditures made on education is always a fundamentally important question. Society pays the bill, and society has every right to demand adequate returns on the investment made. This question of returns is being most searchingly asked today for certain obvious reasons. Chief among these is the fact that our people are finding it difficult to support education and the other lines of public service now being offered.

The unparalleled increase in attendance in all institutions of learning, and more particularly in those institutions in the upper levels of education, have, quite naturally, raised the question among the thoughtful people as to how far the returns with large numbers of these students were commensurate with the time and money spent on their education. Our high schools and our colleges, convinced that their traditional forms of education were not meeting the situation, greatly enlarged their offerings in legitimate attempts to meet the different types of abilities and interests that this new order presented.

[3] Superintendent of Schools, Rochester, New York.

Meanwhile, another problem was gradually emerging. Vocational education had found its place, and through it institutions of learning were finding a practical solution of the problem presented by these enlarging demands for education beyond the elementary school. This specter of unemployment had appeared on the horizon a long time before the prosperity of 1928 and the years immediately preceding had begun to wane. Bagley pointed out back in 1929, even as others had done before, what the development of automatically controlled machinery, which dispenses with the need of human labor on the routine levels, was actually meaning. "This process," declared Bagley, "has already gone so far that in spite of greatly increased production the number of persons actually engaged in manufacturing decreased by upward of a million from 1920 to 1929." He went on to say that for any repetitive operation, whatever its complexity, the engineers promised machinery that would be virtually independent of direct human control. It was such considerations as these that led to an altogether new appeal to American education, an appeal, the significance of which we have not yet caught, for training in the wholesome use of leisure time. Here, then, was another change in the social order of striking importance to the public schools. From a time when boys and girls learned their trades by actually going out into the occupations of the community, our schools had reached the point where specific training within the schools for occupational life had become a demand upon education. In other words, one of the returns to society on its investment in education was vocational fitness. Scarcely was this established when the scarcity of vocations led to another social change as a result of which our schools were asked to train for the wholesome use of the leisure hour. Many factors cluster around this responsibility which the school has assumed; these factors must be considered when the question is raised as to how far education is making adequate returns on the investments required.

Economies and employment being by no means the only interests of life, there are other factors to be considered in any attempt to answer this fundamental question with which we started. Society attempts to protect itself through laws made and enforced. Education is properly supposed to contribute to society a wholesome respect for the observance of these laws, yet if we are to judge the effectiveness of our effort by the present attitude of society toward law observance, we shall certainly not boast of the results. Thus education has an obligation to society both for enabling the individual to stand on his own feet as an independent economic unit and to respect the laws which society finds necessary for its protection. No one,

however, would presume to say that education had made its entire returns to society even after it has met these obligations. That individual who is able to support himself and those dependent upon him and who is willing to grant cheerful obedience to the laws of the country is certainly a good citizen, but the individual who can add to these essential accomplishments an active interest in community life manifested through active and intelligent attempts to improve the social and civic conditions of this community life is going a signficant step farther in the direction of the ideal citizen. In the development of such a citizen the school is but one of the agencies of influence. To determine what part the school may play and what part these other agencies have in producing these social and civic values is obviously an impossibility. At best we can only try to become increasingly conscious of our obligations in these and other directions and then strive with all the industry and intelligence at our command to play our full part.

If the preceding sketch suggests some of the pertinent questions in the education of those whom we do not think of as the physically, mentally, or morally handicapped, what shall be said about education as a social investment for those who suffer from such handicaps? To be sure, we refer to special education as including the exceptionally capable or the exceptionally handicapped. By and large, however, our efforts in special education have been directed toward those of the handicapped group. In this field, as elsewhere in education, society is also asking some searching questions. These questions naturally come because the cost of this education is relatively high, and the returns theoretically, at any rate, are potentially low. One of our ablest elementary-school principals some years ago became particularly interested in the field of special education. He was given freedom to work out plans which he had formulated, and he was making some real contributions to the work. Suddenly, however, his interest began to flag and soon was lost entirely. His explanation was that he had heard an address by one interested in eugenics who had believed that money spent in the education of these handicapped children was money wasted, and that if society were just to itself it would do away with large numbers of these children and take measures to prevent bringing more of them into the world. It is easy, and in some respects tempting, particularly with reference to the preventive aspect of this proposition, to follow the line of reasoning laid out, but to whatever theory we may attach ourselves in such a discussion there are two things to be faced: First, society has not thus far seen fit to follow to any great extent such a policy, with the

result that we have these children in our midst. Society has them. What shall society do with them? Second, education has actually demonstrated its ability to make industrious and law-abiding citizens of many of these boys and girls, who at the outset were not regarded as worth educating and who, but for education of the special types provided, would have been a menace to society. Of course we all recognize that there are those who are so far below the threshold as not to be educable. Our references have to do with the type of child to whom our usual forms of special education are applied.

I sometimes wish that it were as practicable to measure the social significance of education outside this special field as it is within the field itself. A few illustrations of types with which you are all familiar will make clear the reason. I shall not concern myself with the humane side of the question but keep entirely to the social value of this work.

I shall cite as an example two children, one, a boy of twelve, the other, a girl of ten. They were so physically deformed that such a thing as entering school had never occurred to them or to their parents. You in Ohio have done great pioneer work in this field, and the whole nation is indebted to you for the work that you have done. Rochester was slow in starting such work. Finally the day came when the public schools of Rochester opened a class for crippled children. Confined as they were to their meagerly furnished homes with neither the opportunity nor the ability to live the lives of normal youngsters, these two children were coming into the adolescent period with a spirit of morbidness and rebellion that can readily be understood. They were among the first to enter the class. I sometimes think that the most important factor in the complete transformation of these youngsters was the knowledge that somebody cared. Their deformed limbs and spines were made straight. Those two rapidly went through the education offered in the classes. Both later went on to high school from which they have since been graduated. Has the investment in the education of these youngsters been justified by their value to society? Even in these difficult times they are earning their own livelihood, and no persons could be more law-abiding than are they. The community has made it possible for them to attain the ultimate purpose of all education, according to former President Eliot of Harvard, the attainment of true happiness. The social significance of special education for such as these is so apparent that, so far as I am aware, our city has never raised a question as to the results made on the investment in education for crippled children.

Go with me now into one of our hospitals and follow through the

work of the teacher assigned by the public schools for the convalescent children. Again somebody cares. Their school work is not retarded, for even in their illness the individual attention that is possible enables these children to make more rapid progress than would be the case otherwise. Their days of convalescence are shortened, for both physicians and nurses unhesitatingly declare that the interests thus afforded are a potent factor in their recovery. During these days of budget reduction when we are forced more and more toward the legal requirements in education only, some of these lines of work that are so important and so valuable will have to be discontinued. This line of special education, however, has so established itself in the confidence of the hospital authorities that even with the serious financial problems which the hospitals face at least one of them is planning to carry on this work at its own expense. Certainly there is no doubt in the minds of those who are dealing intimately with these children as to the social value of this form of special education.

Another line of special education which Rochester has developed is the special instruction and care of the hard of hearing. So thoroughly has the work become established that practically all our children receive tests with the audiometer and remedial measures, if they are in need of such. For scores of children permanent deafness is prevented. Many others learn lip-reading with astonishing results. This is special education which costs money. On the other hand, it saves money by avoiding grade repetition with all the discouragement and antisocial outlook that such repetition brings to an otherwise capable child; furthermore, this special education brings about a spirit of social co-operation, that indispensable factor in training for citizenship that can never be measured by examinations in promotion subjects but which stands out as a signal trait of an educated citizen.

At Rochester, as elsewhere, we have developed special education for the mentally retarded. This work is so graded that it starts with the primary class, goes on into the intermediate, and finally into the advanced. The advanced work for girls is of a prevocational nature and is done through special classes in individual school centers. The advanced work for boys, however, takes the form of two special schools, one on each side of the city. It is quite as easy to exaggerate the benefits from this field of special education as it is to underestimate them. Any attempt to make of these mentally handicapped children skilled artisans or skilled workers in any vocation would for the most part, of course, be folly. There are, however, occupations for which these youngsters can be fitted and through which they can and do gain economic independence.

Keeping in mind simply the three clearly recognized outcomes of education by which society has a right to judge whether or not investments in education are paying adequate dividends, it may be interesting to consider some facts with reference to our own experience in the field of special education that have to do with the mentally handicapped child. I dare say that these experiences are not one whit different from the experiences of others who deal with this type of child. In the state of New York, a law makes mandatory provisions for the mentally retarded child and guarantees a special education for these children. These, however, are the days when even legal requirements are being scrutinized with the thought of change leading to reduced expenditures. What evidence can our school systems offer in support of the legal provision for these children?

In 1924 the Children's Bureau of the United States Department of Labor conducted an investigation at Rochester of 210 pupils who had left these special classes for mentally retarded children. At the time of the study, 75 per cent of these cases had been out of school three and one-half years or longer. Of the total number of 109 boys studied, 74 per cent were regularly employed, 24 per cent were temporarily unemployed, and 2 per cent were in institutions. Of 101 girls, 47 per cent were employed and an additional 38 per cent were contributing honest labor through work in the home. As has been indicated earlier, the jobs held were those of unskilled and semiskilled labor. The median of the beginning wage for these boys was $12 a week, while the median of the wage at the time the study was made amounted to $21.87 a week. This would be accepted by us all, I think, as good evidence that this type of special education was returning to the community adequate dividends so far as economic independence was concerned.

In the spring of 1930 a survey of 109 boys and 50 girls, the products of these special classes, was made. These returns showed that 58.5 per cent of the entire group were employed in the spring of 1930 in contrast with the 74 per cent of the larger group in 1924. No one has been surprised at this change in view of the marked conditions of unemployment that existed in the autumn of 1930.

There were, likewise, at least some interesting suggestions that grew out of these studies with reference to the law-abiding qualities of these children. For 76 per cent of the boys there was no trace of any delinquency record. They were law-abiding. The same was true for 98 per cent of the girls. Of course, it is to be remembered that these were the ones who had survived throughout the entire special-class course and had consequently availed themselves of all the advantages which this course had to offer.

Another interesting phase of special education is the leisure-hour problem. I read some time ago some interesting comments with reference to the club work and so-called extra-curricular activities of these youngsters. One boy whose reputation had been none too good before he reached this special school for boys indicated that, at least during his school life, influences of an exceedingly valuable type were having their effect upon him. "We met," he wrote, "on the fifth of March, at 5:15 o'clock in the morning, went to Durand Eastman Park and then started up the hill toward the woods. Mr. Martin, one of our teachers, was in the group. We felt sort of hungry so we opened our lunch and ate it. After eating we started looking for birds." Then followed a list of nine different kinds of birds that this group had found on this early morning jaunt. There are two boy-scout troops chartered in our boys' schools, enrolling in all about fifty of these boys. The scout masters are teachers who understand these boys and who help them to make the necessary adjustments for scouting and the winning of honors. Arts and crafts groups, airplane groups, and various other types designed to develop interests bearing upon this leisure-hour problem are taken advantage of by these boys with an eagerness not always characteristic of what we think of as the normal youngster. We, perhaps, need again to remind ourselves that it is quite as easy to exaggerate the benefits derived through this type of special education as it is to underestimate those benefits. When, however, we have before us such facts as the ones just given, and when in addition to these, we have the conviction on the part of the agencies in the community that deal with delinquency that this special education is returning investments to the community that fully justify the expenditures made, we have valid reasons for believing that these efforts are well worth while.

Thus provision is being made for large numbers of individuals for whom the educational provisions available in the public schools for so-called normal children are entirely inadequate. It is these that concern us in the field of special education, and we have, it seems to me, every reason for believing that humane considerations for the individual no less than protection for society itself demand that our efforts shall not be relaxed in the care of these boys and girls.

The Activity Program as a Social Investment

By SAMUEL ENGLE BURR[1]

EDUCATION MAY BE VIEWED as a study in contrasts, as a field for conflict between contending interests; for example, it is essential for education to meet group needs involved in a consideration of many children, but it is equally important for it to meet individual needs. The topic with which I am concerned makes it evident that we have a contrast here, that not everyone looks upon education as a social investment, and that an activity program is not the only program which might be considered a basis for education, if it be granted that we conceive of education as being a social investment.

Our most common use of the term "investment" in the field of finance involves putting some money into a project so that we may derive interest from it over a long period of time, without losing the principal. We even hope that the principal will increase in value, largely because it does yield a constant return. Our use of the term in education is much the same, except that we have in mind certain values other than dollars and cents. When we say social investment it is quite apparent what those other values are. We are thinking about returns of a social-civic-ethical nature which have had an honorary place in our educational creed for some time, but which have been somewhat lost when we consider their practical application. I refer to four of our seven cardinal principles of education, namely, worthy home membership, the proper use of leisure, avocational training, and ethical character.

It seems to me that the best way to attain such aims, as a social investment, is through the use of an activity program. As a "progressive," I am not so radical as to throw out all of the old, disregard the whole race heritage, and turn the child loose to do what he may; nor am I so conservative as to let the teacher choose the unit and work it out in advance and serve it to the child on a silver platter. It has been demonstrated repeatedly, however, that we learn to do by doing and that the learning process is an active process. Learning constitutes a continuous series of many activities, all of which are composite, involving more or less of the physical, mental, moral,

[1] Superintendent of Schools, Glendale.

social, spiritual, and emotional self in each. How can an activity plan, a child-centered school, produce a result which will yield a good social return to the individuals and to the community over a long period of years, without the loss or depreciation of the principal?

From our present Glendale situation, I might choose several activities which I believe illustrate this thing very nicely, but I shall choose one only. A recent project of the seventh-grade class may be taken as an example. This group of pupils have been studying Glendale, including its history, geographical location, supporting industries, educational opportunities, village government, and public utilities. Under the head of education they considered our assessed valuations and tax rate, our annual school budget, and the distribution of expenses. They studied the plan of our present building and considered its use from the educational standpoint; then they compared all these things with situations in near-by communities. They secured tables showing other tax rates, and they visited other schools. Among these were the Walnut Hills High School at Cincinnati, a large school, and Sharonville, a rather small school. They have suggested changes in our local conditions as a result of this investigation and have built up attitudes and appreciations toward the matter of public education that they could not have received in any other way.

I believe that this is a direct investment of a social nature growing out of our activity program and that it will have its effect not only in the present, while these pupils are in school, but in the future, when they become parents and taxpayers themselves.

A unit of this sort involving a study of education is perhaps the most direct type of investment that we could make, but I believe that other units in all the grades can be shown to have involved real investments in social welfare and that the activity method is able to produce better results than can be secured by any other plan.

Integrating Education and Practice Teaching

By ADELAIDE M. AYER[2]

THERE IS ONE POINT in which modern schools are in practical agreement: all are clamoring for better trained teachers. The greater the vision as to the function of the school in this changing civilization the more insistent is the demand for a new kind of teacher, not just the skilled routine worker or technician, but, as Henry Fairfield Osborn observes, "the learned, original, creative discoverer."

[2] Milwaukee State Teachers College.

We who are interested in training teachers must find ways of stimulating and developing a different type of teacher from those that we have turned out in the past and are still turning out today. A change in curriculum, an adjustment of majors and minors, a few additional courses, even a higher standard of entrance requirements and of graduation will make only slight improvement in the product. These are only patches on a worn-out system of college training and teacher preparation. We must go down much deeper into fundamental principles.

Perhaps the late Frederick G. Bonser has shown us the way in general in a statement made shortly before his death. He said, "Schools have conventionally been for the students. How much richer would be their life if they were *of* the students and *by* the students as well as for them." He was pleading for us to apply the principles we preach, that we so reorganize our teacher training that students learn by their own activity, not by the activity of their psychology teachers and philosophy teachers and methods teachers. In the same article he said, "Let it be insisted that the philosophy of education should be constructively arrived at by the student himself."[3] This idea of the learner being given more freedom, more initiative, a chance to develop his own philosophy, was not first voiced by Mr. Bonser, but three hundred years ago in far-off Bohemia, Comenius declared that the great aim of education was "to search out and discover a rule and a method in accordance with which teachers teach less and learners learn more."

For over three years in Milwaukee State Teachers College we have been experimenting on an organization that would seem to be more in harmony with the educational principles which we preach, a method by which "teachers would teach less and learners learn more," a plan which would not only be for the students but "of the students and by the students."

In this teacher-training experiment only students who have had two or three years of college work have been selected. They have been a cross section of the institution as far as both academic records and personality have been concerned and in every case have been volunteers. These have been students of kindergarten-primary and elementary departments. The purpose of the experiment in general has already been stated by Comenius and Bonser, but in a more specific sense the purpose of the experiment is to determine a better plan of teacher training in order that prospective teachers through well-integrated work will see their professional life as a whole, develop

[3] Bonser, Frederick G. "Needed Changes in Teacher Training," *Progressive Education*, VIII (March, 1931), p. 276, p. 274.

initiative, and free themselves from inhibitions created by school and society. A second objective is that these prospective teachers may develop faith in childhood through more contact with children and a better understanding of them. Effort is made to guide them toward a sound philosophy of education, intelligent psychology of mental and emotional life, and a familiarity with scientific investigations. Instruction in the art of guiding children to think and to create is provided, and effort is made to lead these prospective teachers themselves to become original, creative workers.

Students in the experiment devote two semesters to the work in place of the time ordinarily given to educational courses and practice teaching. Three or four students entering the experiment are assigned to a given grade in the campus school with two advisers, the training teacher of the room to which they are assigned, and a supervisor. Conferences with these advisers are held frequently, every day or every other day the first semester and less often later.

When a group of students go into the experiment they are told:

1. There will be no organized courses for a year.
2. The work in education will be integrated; no hard and fast lines will be drawn between observation, theory, and principles of education and practice teaching or between the content of given educational subjects or courses.
3. An effort will be made to help students to see education as a whole by observing all grades and many types of schools.
4. Their school day should be divided between the children's classrooms and the library.
5. The order and organization of the theory work will depend upon their interests and curiosity.
6. They should keep a record of all questions and problems that arise and present them at the frequent conferences of students, training teacher, and supervisor.
7. They should keep a diary record of the way they spend their time and a record of their readings.

The character of the first conferences depends upon the interest shown by the students, and their interests in turn are usually determined by the interests of the class the students observe or by the problems that arise during their observation. In several new groups of experimental students the first or early interests and questions are related to the emotional life of children, behavior, and discipline. To answer these problems students are obliged to study mental hygiene. The conduct of the experiment from the students' standpoint is more nearly like a first teaching experience. The procedure used is quite unlike the carefully organized work in traditional courses.

At the second conference, questions as to the behavior of problem children precipitated the study of mental hygiene. The students announced the second week that each student was going to make a case study of a problem child. In looking up the data about those children students found they could not interpret children's intelligence and achievement records. There was immediate need for the study of tests and measurements. In their study of Greece the students became interested in the study of Greek philosophers and their theories of education. That interest led them to ask if they might not study the educational theories of other early educational leaders. Thus problems grow like a rolling snowball. These illustrations suggest the ways educational theory is studied and integrated. The plan might be called project method applied to students' professional work.

The personnel of the advisers determines to a large extent whether theory and practice are well balanced and also the degree of superficially or depth of the work covered in the experiment. As in the progressive elementary schools better teachers are needed for this more creative type of teaching than for the traditionally organized schools. Safeguards are gradually being thrown around the experiment to keep it on a high professional level. Some groups have occasionally taken examinations in regular educational courses to help to determine students' strong and weak points. Since these examinations are not necessarily valid tests of what education should be known by students, the only reason for experimental students taking such examinations is to safeguard the work by occasional checks, the special teacher's examination being one type of check. Each group of elementary students who are in the experiment is at the end of the first quarter given an individual oral examination by four members of the faculty. A similar individual test is again given before the end of the semester by other members of the faculty who have not been supervising the experiment and who are more or less specialists in the theory work covered.

Another type of check encouraged with certain groups is a frequent paper covering some phase of the work in which students are interested. The following are typical of topics on which students have written: My philosophy of life, How the study of mental hygiene has influenced my thinking, The validity of mental tests, and Grade overlapping in intelligence and achievement.

These two innovations along with occasional tests given by the advisers in determining in a more or less objective way the depth of thinking and work done by experimental students have proved valuable. Both plans have shown the almost hopeless superficiality of an

occasional student and the depth and power of others. Since there is more responsibility put on students in the experiment than on students in regular courses there is much greater difference shown in the strong and weak students than in courses organized by the teachers.

If their philosophy of education is to be constructively compiled by students themselves, it is important that they visit all types of schools. After they have done a variety of reading and have observed in several grades in the campus school, they visit several types of schools in the city, a platoon school, a beautifully equipped public school (departmentalized above the third grade), a semiprogressive private school, a conservative private school, a public school made up of Negro children (mentally and socially handicapped), a school for the deaf (physically handicapped), and a semiprogressive parochial school.

In order to enrich the students' background and vitalize their personalities, a program of other experiences is arranged. They are encouraged to visit industrial plants, the museum, weather bureau, and public buildings, and to attend lectures and concerts. One student with unusual musical ability was sent for three days to a neighboring city to work with a man who was doing outstanding work in creative music. Other opportunities of a similar nature should be provided.

Though a cross section of students has been selected for the experiment, there is much evidence to indicate that those in the experiment eventually show much more initiative than do other students, that the nature of this experiment helps them to free themselves from their inhibitions and to take more responsibility for themselves and for children with whom they work. Careful records are kept of work covered at the conferences. We start each group with careful records, but pressure of other work of our limited supervisory staff is often responsible for the neglect of these records later. Students, however, do keep full records of reading done, topics discussed, and time devoted to various phases of work. Careful records are made by advisers of the marks of special teachers who give individual quizzes and of written tests and other checks.

Since I have worked indirectly with several groups for two years and directly with two groups this past year, I have concluded that the results of the experiment may be poorer than the traditional method of training if the advisers have not exceedingly high standards and if they do not use several different types of checks. The theory work, especially the technique, may be neglected and the time given almost entirely to practice teaching. This again will depend on the vision, standards, and interests of the advisers. The students of the experiment who are adequately guided read much more extensively

than do students under the traditional plan, and this reading leads directly into related fields. The experiment is an ideal way of developing initiative, resourcefulness, originality, and responsibility in students; however, the student who seems to have almost no initiative to start with, who is a routine worker, who wants to be told everything to do is likely to do work inferior to that done in carefully organized courses.

Through longer and more varied contacts with children than in the usual plan of practice teaching, students understand them and have more faith in them. This results in a feeling of self-confidence in working with children. The experimental students know how to guide children better than do other students and at the same time do less direct teaching. Thus children under them think and are more creative than children under other student teachers. These students use techniques and methods in a more experimental way than do other students.

The plan of the experiment is a far superior plan to the traditional one in helping students to see education as a whole. If there is anything in the theory of growth, as most of us believe, this plan of teacher training gives much greater opportunity for growth than the rigid traditional plan.

Education and the Future of America

By JOY ELMER MORGAN[4]

THE THEME OF THIS CONVENTION, "Education as a Social Investment," is peculiarly timely. In spite of a demand from some sources for reduced school budgets, the best thinkers of our period are convinced that education is the most important source of national progress and security, and that to cripple the schools through unwise retrenchment will mean an irreparable loss to the children of America. This point of view was expressed by President Hoover at the close of the recent meeting of the Department of Superintendence at Washington, when he said: "However the national economy may vary or whatever fiscal adjustments may need be made, the very first obligation upon the national resources is the undiminished financial support of the public schools. We cannot afford to lose any ground in education. That is neither economy nor good government."

During the convention an able committee on school costs, under the chairmanship of David E. Weglein, of Baltimore, submitted a

[4] Editor, *Journal of the National Education Association.*

report which pointed out that concern over this problem is not, and should not be, limited to the educational profession. The effective and continuous function of the schools is of first importance to every citizen, to the parent, to the manufacturer, and to the business man. The greatest markets in the world lie undeveloped within our own national household. In spite of all the gains that have been made in arousing ambitions and lifting the standard of living among our people, 50 per cent of the population is still too little educated to have either high earning or buying power. We shall have a new era of progress when our business men and industrial leaders realize that the greatest markets of the world are not in China or India or Africa, or in any other distant countries overseas; the greatest markets of the world are among the undeveloped elements in the American population who with a little additional schooling would become generous buyers of our American products.

Selfish interests in their attacks on the schools propose to cut from school budgets many items which they choose to describe as "fads and frills." In this way they often bring under attack those newer and more vital aspects of our school system which are necessary to meet the changing conditions of this new age. In some communities teachers' salaries are frills; in others, health, or kindergarten, or music, or the extra-curricular activities. There is no one of these services that has not been added to the schools in response to imperative popular demand and need. They are no more frills than the self-starter or the four-wheel brakes of our automobiles.

There is a hopeful side to the present crisis. Adversity is a great teacher. There is something inspiring in the way the forces back of education are rallying to the support of the schools. We have in the legislatures of the various states a really remarkable appreciation of the economic and social service of the schools. Our school boards have shown heroic devotion in meeting the most difficult situation that boards have ever had to face. School officers and teachers have shown courage and initiative in dealing with the emergency.

The schools would be vastly worse off today than they are were it not for the work which local, state, and national associations have been doing during the past ten years in the interpretation of education to the public, but there is now an even more pressing need for individual interpretation by every teacher. If the people are not to think of the schools as something apart, the schools and homes must be brought much closer together than they now are. The parents think of education in terms of the individual teachers of their children.

Let every teacher learn to ask himself such questions as these with reference to every parent represented in his classes: Do these parents know me? Have I been in their homes? Do they know my classroom? Do they feel free to talk with me about their problems? Do they understand the needs of the school? Do they know this school, its history, its services, its significance, what it costs and why, and how the larger enrollment reflects public appreciation and faith? Have I talked with the parents of my pupils about the present crisis and its effects on the children of this community? Am I doing my part to spread this information in daily contacts with pupils and citizens and in addresses before community organizations? Have I emphasized the importance of keeping children first and of letting them be the last to suffer as a result of the mismanagement of their elders? We need to keep clearly before our people the fact that children must be given service now or never. We cannot turn back the forces that govern their growth. Roads can be built tomorrow, but children live and must be taught today.

An equally important need is to interpret the schools as a social investment to the students themselves. If each student is graduated with a profound sense of the significance of education for the individual and for society, continued progress of the schools is assured. High-school graduates soon become voters. Their knowledge of what constitutes a good school system will guide them in their decisions on school issues of taxation and support. Above all, the function of the school as the instrument of a planned national progress must be made clear and challenging to our young people. In his book, *A Sociological Philosophy of Education*, Ross L. Finney points out that we must teach appreciation of the school as an institution. The home, the school, the church, and other institutions of society, far from being bonds which thwart and restrict the individual, are the patterns of self-realization and the molds of his freedom. Apart from them, there would be no civilization, and the child would remain a naked savage, a dumb brute, a mere inhuman lump of flesh.

Such a philosophy challenges teachers to improve the institutions of society by preparing young people for better institutions than we have today. Preparation for this responsibility calls for much study and scholarship upon the part of teachers, particularly in the fields of our changing economic and social world. A study of the functions of institutions reveals their present defects. A study of their history reveals, in part at least, what trends of change are desirable. The broader the general knowledge of educators, the more hope there is of a better world through the agency of the school.

It becomes increasingly plain that if the vital services of govern-

ment and education are not to be crushed by blind economic forces, principals and teachers and citizens generally must be made familiar with the great economic facts and trends upon which the well-being of us all depends. Teachers and superintendents in the present crisis have given lavishly of their time and energy in dealing with the difficult questions which now confront education in our various cities and localities. Many of these problems will remain unsolvable until we are ready to emerge from an economic policy which was adequate in an agricultural society, but which cannot function in the complex atmosphere of our day.

The unhealthy and unplanned economic system of the past decade, which flourished under what Charles A. Beard has termed the "myth of rugged individualism," must be replaced with something sterner. It is apparent that the immediate situation has its roots in the lack of social planning and of wise economic management.

At the Washington meeting of the National Council of Education it was asserted that America faces a choice between communism and fascism, that either the blind and brutal lower classes will rise up and take control as they have in Russia or that the privileged few will seize the reins of power as they have in Italy. I do not believe that America faces this choice. I believe there is a middle ground. It is possible for America with all its material, intellectual, and spiritual resources to go far beyond anything which can be done in these other countries.

We need to remember that no civilization ever makes a sudden and complete break with its past. Even our more violent revolutions do not make so complete a break as they appear to. They carry over into the new order all the limitations of the old. The basic habits and the great institutions have their roots deep in the soil of human nature. The schools of Italy and the habits of thought in Italy have been fundamentally class minded for centuries. Russia under the czars remained practically untouched by the moving forces of the Renaissance, the Reformation, and the French Revolution. The Russian people were kept in ignorance; they were accustomed to brutality and to harshness and corruption in government. The new leaders have simply used to accomplish their new purpose the old familiar methods. In America we have the greatest school system of all history. The lines between our classes are not sharp or fixed. The sense of common destiny is strong among us. During this period of emergency our people have made a remarkable record. There has been an understanding on the part of the rich and a patience on the part of the poor, and an energy and intelligence on the part of the middle classes that should be a source of pride to us all.

With her great institutions of home and school and church, America is in a position to meet the new age and to take advantage of the new forces in a way that was not possible for Italy or Russia. I believe that this will be done. What we lack is not resources, but ordinary common sense, vision, courage, and a willingness to sacrifice on the part of those who are responsible for our financial and industrial affairs. The time has come to take a new grip on the fundamental values, to determine once more to stand by the doctrines of equality and opportunity upon which this nation was founded and to use foresight, planning, and control in the application of those principles to the conditions of this new age.

Already fresh interest is centering in the idea of social and economic planning. There are Charles Beard's plan, Stuart Chase's, Gerard Swope's, the plan of the United States Chamber of Commerce, and many others. Even the philosopher enters the forum and Will Durant writes a book entitled *A Program for America*. Whatever the risks of national economic planning under public auspices may be, they are infinitely less than the risks of a policy of national drift. Not to use our gigantic resources, skill, and machinery to improve the lot of all our people is simply national suicide. Reasonably decent housing for all would require a construction program more than double construction in all lines during the past decade. Education is greatly in need of further expansion. At these two points alone our unemployed could be absorbed.

A large part of the curriculum of any school that is going to function in the modern world must deal with this constant replanning of American social and economic life. Much of the subject-matter in our formal courses, especially in the high schools, is not sufficiently close to contemporary life to be vital. A great body of consecrated teachers and eager young people are spending too much of their time at tasks which do not awaken more compelling motives of life.

The changes which are taking place today in American life and in world life are so profound as to require a new type of education. The school itself must be an instrument of social progress. There must be much closer connection between the activities of the school and the needs and purposes of the life which surrounds the school. Schools must incessantly ask themselves what they are doing to improve health, to enrich home life, to give integrity and vision to civic enterprise, to increase the efficiency of vocations, to beautify leisure, and to ennoble character. They must deal with such problems as co-operative marketing, land utilization, city planning and housing, and international affairs.

Somehow we must give our young people a vision of America as she might become, so that they will get something of the inspiration and the feeling of national destiny which we have ordinarily associated with war. The young people who are coming on to the scene today have an unusual opportunity for great achievement. No nation in all history has so great a foundation for advance. The pioneers of the eighteenth and nineteenth centuries conquered the wilderness and settled this continent. They developed its states and its great educational institutions. The young people today face the challenge to a new kind of pioneering. It is theirs to be pioneers in the improvement of community life, in the development of our schools, in the enrichment of our spiritual ideals, in the perfecting of international relationships, in the improvement of industry and business.

Inspired by the rich associations and memories of this two-hundredth anniversary of the birth of George Washington, let us endeavor to do for the people of our generation what he endeavored to do for his, to give them a leadership in keeping with the needs of the new day. As he endeavored to provide for the security and happiness of all, shall we not establish among ourselves a clear conception of those needs and opportunities which are the rightful heritage of all our people? We shall call this new bill of rights in honor of the founder of the Republic the Bicentennial Bill of Rights:

First, the right to security, to a system of life so planned as to offset the uncertainties of ill health, accident, disability, unemployment, old age.

Second, the right to a home amid surroundings that are beautiful, clean, quiet, safe, wholesome, and neighborly.

Third, the right to an education thorough and comprehensive, including both children and adults, adapted to the changing needs of the new day.

Fourth, the right to a government that is honest, intelligent, and efficient, the faithful servant of common need and purpose.

Fifth, the right to a job that will afford an opportunity for service by which to earn a minimum income that will provide a reasonable standard of living.

Sixth, the right to community recreation for all supported by community funds, publicly managed and freed from the degrading influences of excessive commercialism.

Seventh, the right to participate in democratic community activities which will help to magnify the human values and to make life beautiful, happy, and significant.

Some Conceptions and Misconceptions of Extra-Curricular Activities

By HARRY C. McKOWN[1]

PROBABLY THE PHASE OF EDUCATION which has grown the fastest during the past decade is the field of the so-called extra-curricular activities. Evidence of this is to be found in the number of books in the field—eight years ago there was not one, now there are more than thirty. Other evidences are the development of the position of activity director, the inclusion of activity periods in school schedules, the development of college and university courses for teachers and administrators, the amount of space given to it in professional literature and on professional programs, and the development of national associations of various activities.

Much of this has been a mushroom growth, fast and big and spectacular but not particularly solid and substantial. Probably many stupid things are being done in the name of extra-curricular activity, but, on the other hand, much of this growth has been sound and solid and represents real worth-while achievement. Certainly, the attention which is being increasingly centered on these activities augurs well for their continued healthy development.

I shall use the term "misconception" throughout my discussion to mean a faulty picture, an unsound idea, or an illogical argument, while by "conception" I shall mean a proper, logical, and sound interpretation. Naturally, I cannot begin to cover the entire field, but I shall discuss a few activities that illustrate the necessity for a clear, logical, and definite program.

Assembly.—There are three current misconceptions of the school assembly. The first is that it is a religious service, a chapel, something it never has been, is not now, and never can be as long as individuals differ so widely in their basic religious beliefs. To the high-school student whose religious training does not allow him to accept the material, the method, or the leader, the reading of the Bible to him is no more a religious service than the reading of the Koran, the Vedas, the Talmud, or the Sayings of Confucius. True, there are argu-

[1] University of Pittsburgh.

ments for toleration of the beliefs of others, and appreciation of beautiful literature, but the chapel misconceiver does not talk about these.

A second misconception of the assembly is the considering of it as a vehicle of "discipline," an opportunity for having the students march stiffly into the auditorium, sit rigidly through the service, "acting in concert," being sermonized at, and the like. This is done to discipline the student, or to make a show for the visitor, or to cheer the hearts of the "old faithfuls" who have always thought of the school as a sort of house of correction and its chapel as a kind of week-day church service.

A third misconception, less true than the others, is that the assembly is a place for the student to learn to express himself in public and so he is given opportunity to practice before his schoolmates, whether members of his audience receive anything for their time and attention or not. It is true that the participant will learn, but one of him is not nearly as important as a hundred or five hundred times him who must sit and listen. The "greatest good to the smallest number" is the slogan of the teacher or administrator who considers the assembly a main vehicle for the development of student expression. Of course this misconception is more to be justified in the platoon school or some other special form of organization in which the groups are small and participation is frequent and vital.

A proper conception of the assembly period is that it is a period of real education for both participants and audience. Included in this conception are arrangements for competition in the interest, not only of developing a worthy emotional attitude toward it and toward participating in it, but also, equally important, of developing standards by means of which its value and success in approximating desirable educational objectives may be determined.

Home room.—Three popular misconceptions center about the home room. The first, that "home room" and "report room" are synonymous, is fast disappearing, yet there are many schools in which this is still held. A second misconception is that the home-room plan applies only to the junior and senior high school and not to the elementary school. Another is that the home room is in reality a personal-affairs class—a formal class by a more intriguing name.

A proper picture of the home room shows it as an opportunity for the teacher and the students to become better acquainted with each other, with benefits to both, but more particularly to the latter. In this conception, the home room is an opportunity to regain the lost teacher-student relationship which existed in the old school where the teacher knew his students completely and not merely as individuals working arithmetic, writing themes, or translating Latin.

Council.—There are two important current misconceptions of the student council. The first is that it should "head up self-government"; the second, that it should "train leaders."

A better picture eliminates the idea of self-government and includes a far different idea of participation in control; not the acceptance of responsibility for the bigger and looser tasks about the school, but for the smaller and the definite. Further, this conception has as its ideal the greatest good to the greatest number and emphasizes the educational benefit to the school at large, to the many students who are not and who never will be members of the council.

Dramatics, athletics, operetta.—The popular misconceptions of all of these are similar: first, that they develop the student by offering him opportunities of expression in them; second, that they teach those who listen to or witness others doing them "the great lessons of life."

These misconceptions have few justifiable answers to such pertinent questions as: How many students participate? Do those who most need the benefits of participation get them? Do those who get the benefits of participation most need them? Do these activities definitely, directly, specially, and demonstrably develop the qualities which the participants, now as students and later as adults, require? To what extent does witnessing the actions of a hero or villian affect the actions of the witnesser? In the modern conception, these activities are recognized as crowd-attracters, money-makers, and school pride-builders, but on the whole it considers them shows or spectacles, and little else. In this conception opportunities are demanded for those students who most need the benefits claimed for these activities —the physically undeveloped, the sick, the halt, the blind and the lame, the tongue-tied and the lisper, the bashful and the backward.

Publications—newspaper, magazine, yearbook, and handbook.—Here again the misconception is that these activities help to discover and develop abilities and interests; they give opportunity for the student to write, to organize, and to handle business affairs. The result is, as has been shown with assemblies, athletics, dramatics, council, and other activities, the overemphasizing of benefits to participants, and the almost total ignoring of the benefits to the school at large. These are considered incidentals rather than main outcomes. A proper picture emphasizes the idea that school publications should be justified in exactly the same way as the assembly program, not on the basis of their assumed or even proved values to those few who get them out, but mainly on their values to the large body of students who read and use them.

Clubs.—A common misconception concerning clubs is that these are the "play part" of school life; that in them the student has free

opportunity to find his interest and develop it. This, of course, implies that his interest in all the regular work of the school is almost nil, an implication which is, of course, far more true than we like to think, but an implication that we can take no pride in admitting.

A proper conception of the club is that it is the laboratory or socialized recitation part of the regular course; that in its pupil-centered material, natural form, and informal method, it supplements beautifully the teacher- or book-centered, artificial, and formal classroom work. It is the best example of the socialized recitation in both material and method, and as such should be available to all students rather than to relatively few. Consequently, in modern schools a decade or so hence there will be no academic clubs. All of these activities, materials, and methods will have been assimilated into the regular classroom work. Service and recreational clubs will still exist, although more and more will they be closely related to vital student and adult life.

Financing activities.—The common misconception is that, because extra-curricular activities are valuable, any means, good or bad, may be justified in financing them. Hence the great array of cheap and undignified methods of supporting them, admission to "shows," tag days, rummage sales, as well as sales of soup, scrap iron, peanuts, candy, rags, and fish, and other well-known and commonly used methods of sandbagging money out of parents and friends. The nondescript methods of raising funds are paralleled by loose methods in handling and disbursing them. Probably the biggest single reason why these activities are "extra-curricular" is to be found in these cheap and loose methods of financing them.

A modern school finances these activities in a dignified manner by the sale of activity tickets and uses sound business methods in handling and disbursing the funds raised. The activity ticket is a first healthy step in the direction of unification of finances, but even the ticket will give way to the final logical development in which the board of education will pay the entire bill. If these activities are valuable, they should be properly financed; and support by the school board will bring a correlative demand that these activities be demonstrably educative. This will not only dignify the program but immensely improve it.

Motivation.—A most common misconception, which all of us have had, is that much of the justification of our extra-curricular activities is to be found in the possibilities of making school work "interesting," that because of his interest in clubs, music, athletics, dramatics, and the like, the student is motivated to stay in school, and to be more "successful" in his subjects. The most natural implication is

therefore that school work of itself is uninteresting and consequently requires "sugar coating." Undoubtedly, it is not intriguing to the average student, but "kidding" him into liking it appears to be a faulty and reprehensible procedure.

A proper conception recognizes that there are motivational values in activities and that the student who stays in school because of them is far better off than if he did not stay in school at all. But it is logical that if these activities have values they should have them in, of, and by themselves in the main and their imaginary, hoped for, or even proved values as motivators should be accepted as incidental values only and not as their major or even important benefits; that is, that they should be justified on what they themselves contribute to the student and not on what they influence academic subjects to contribute.

In the interest of decreasing the number and the extent of misconceptions in extra-curricular activities, three significant, personal, and pertinent, perhaps impertinent, questions may be raised.

First, have you and your faculty clearly and definitely determined and stated justifiable and attainable outcomes, values, or purposes? On the whole, our hoped-for outcomes in extra-curricular activities have been loose, indefinite, and perhaps frequently unattainable generalizations. Look into any book on extra-curricular activities, mine included, and you will find these unparticularized platitudes. We will have to get closer to specific values. Second, does your program in its organization and schedule of activities reflect these ideals? Naturally, no set of worthy objectives has any value unless the organization or administration of the program reflects these values. Good intentions are good only if they result in definite and beneficial actions. Otherwise they are mere useless mouthings. Third, to what extent are you making progress in realizing or approximating your ideals? Any program of education demands measurement, and the field of extra-curricular activities is no exception. We are now in the "descriptive age" of extra-curricular development or history. The literature abounds in descriptions of material, methods, and procedures, but little attention is devoted to measurement. The next period into which we must soon enter is the age of measurement. This measurement will be difficult because it will demand measures of qualities, interests, and abilities which are not as easy of measurement as student abilities in arithmetic, history, or foreign language.

Perhaps much of this measurement will be in the form of relative ratings of materials and methods in the various activities, and we will be able to state that some material is better than other, some methods

are preferable to others, but, at least, this is a definite step in the direction of discovering the extent to which we are achieving desired outcomes. Other more complicated and probably more valuable methods of determining our success will be developed. Out of this measurement will come progress. Old activities will be altered, some will be entirely discarded, and new activities will appear in the interest of making programs as vital as possible. Mere change does not represent progress, but only out of change comes progress. The more successful our measurement, the fewer and the less significant will be our misconceptions. In conclusion, let us remember that misconceptions and proper conceptions of activities are not static but continuously changing, and that what may be a proper conception at one time may be an outmoded conception or a misconception at another. A continuous and exceedingly intelligent study of these activities, their organization, administration, and achievements, is as necessary in this as in any other phase of education.

Elementary Education as a Social Investment

By WALTER L. COLLINS[2]

FOR THE PURPOSE OF THIS DISCUSSION we shall not attempt to evaluate the so-called basic subjects, but shall seek definite provisions which have been made whereby the pupil will be enabled to form those desirable habits and to acquire that attitude of mind which mark the socially efficient, whether at the elementary-school age or in adulthood. To determine to what extent the elementary schools were contributing to these fields, an analysis was made of the courses of study gathered from the 44 states and a selected group of 45 cities. Of the 272 courses of study obtained civics was allowed space in 66, health in 65, safety education in 51, morals and manners in 50, and thrift in 40. Each subject as presented in the courses of study was scrutinized carefully to determine: the aims in presenting the subject, what the subject included, how the subject was presented, grades in which the subject was presented, time devoted to the subject, textbooks used, and organization and other aids recommended. Limitation of space does not permit the presentation of all the findings. A few of the most pertinent findings will be presented under the appropriate headings.

Civic education.—The aims of civics teaching center about cultivation of civic virtues, development of civic responsibilitiy, realization

[2] Wilmington College.

of interdependence of peoples and community, a knowledge of and appreciation of the civil organizations in community, state, and nation. The general practice is to teach the work orally and informally in the first six grades and to make use of a textbook in the seventh and eighth grades. In only 44 per cent of the courses is civics presented from the first to the eighth grade.

The range of time in minutes per week assigned to the subject is from 15 to 125, the general practice being to assign 30 minutes of the week to the full-year course and 75 minutes per week to the half-year course. Sixty-four per cent of the courses indicate a definite time assignment to the seventh and eighth grades; 63 per cent of the courses offering civics in Grades I to VI give no definite time assignment, this making it probable that the incidental teaching of the subject is of little value.

Health education.—The aims in presenting health education are to establish proper health habits, to discover and correct physical defects, to develop ideals of community health, to give a knowledge of the structure and function of the organs of the body. The common practice is to present the instruction orally or informally in Grades I to IV and to give formal textbook instruction in Grades V to VIII. In only 38 per cent of the cases, however, do we find health education given in all of the grades. The range in minutes per week devoted to the subject is from 25 to 100, the common practice being to assign 75 minutes per week. This definite time assignment is made in those grades in which a textbook is used. It is an almost unanimous practice to assign no definite time in minutes per week or month in those grades in which the work is given orally or informally.

Safety education.—The teacher of safety education attempts to give information concerning the conditions and situations about which there is the element of danger, and to create on the part of the pupil a habit of safety which will lead him always to take proper precautions for the welfare of himself and others. The subject-matter of instruction is timely, the items receiving the greatest emphasis are those listed as of most importance by the committee on public accident statistics of the National Safety Council. The instruction is usually given informally and in correlation with other subjects. The organization of the school into a safety council or league with a constitution is suggested in 45 per cent of the courses studied. Fully 33 per cent of the grades represented in the courses studied receive no instruction whatever in safety education. Only 18 per cent of the courses provide a specific amount of time for this instruction.

Morals and manners.—The teaching of morals and manners

centers about the inculcation of such ideals and habits as will result in proper action. Emphasis is placed upon the twofold phase of action, the effect upon the individual and upon society, of which the individual is a part. The subject-matter in almost every instance is drawn from the civic virtues such as neatness, care of public property, conduct at home, common courtesies, manners at the table, and the *Moral Code for Children* by William J. Hutchins. The subject is offered in Grades I to VIII by only 36 per cent of the courses. A fact of more significance is that in 28 per cent of the grades represented in the various courses the subject is not given at all. In 90 per cent of the courses examined there is no definite provision for fixed periods of instruction.

Thrift education.—Thrift education attempts to train the child in habits of thrift in terms of time, material, and money; create through the schools a public sentiment for thrift and economy; and by means of this public sentiment to cultivate a national habit of thrift. Thirty-six per cent of all the grades represented in the 40 courses on thrift do not receive thrift teaching in any form. With the exception of two courses no definite time allotment is made for the subject. Only 15 courses recommend the establishment of school savings banks or the formation of savings clubs.

From the foregoing facts it is evident that the elementary schools are recognizing the need of certain types of instructional materials not as yet formally introduced into the curriculum. I would like to propose the following. That a course of study be prepared which will include the essential elements of civics, health, morals and manners, safety education, and thrift for all the grades of the elementary school. This course of study should be so organized as to involve each pupil in a series of activities designed to fix proper ideals and habits in civics, health, morals and manners, safety education, and thrift; with an outline in anticipation of a definite time assignment for each week, and with provision for a pupil organization and some device by which pupil progress may be checked. It is believed that the habits and ideals growing out of the operation of such a proposed program would be so socially effective as to add further indorsement to the efficacy of the elementary schools. Much good material is now available. The problem constitutes a challenge to those who are really concerned about elementary education and its relation to education as a social investment.

Motion Pictures: an Implement in Education

By CARL E. MILLIKEN[1]

In the discussion of motion pictures as an implement in the classroom and as a supplementary source of stimulation in educating the mind of the young, the mechanistic and technical gifts of science should be regarded not as educational media in themselves, but merely as tools of enrichment if they are subject to the guidance and interpretation of the wise teacher. Surely it is not exaggeration to state that visual aid to instruction is the outstanding gift of the new century to the teaching profession; that the motion picture is the most versatile, the most dramatic, the most potentially useful of visual instruction aids needs little argument. The impress of this device is already on the minds of the world. The child thinks of the motion picture in terms of pleasurable entertainment. Aside from the pedagogical powers of this medium wisely used, it possesses in superlative degree the capacity to supply a growing psychological necessity in the classroom: interest in school work sufficiently powerful to divert the mind of the child from the flow of competing modern bids for his attention.

In the thirty-five important research studies completed in the field of visual instruction and in the preliminary findings of two additional studies now available in tentative form, there is general agreement that motion pictures used directly in teaching increase the efficiency of the child's learning from 10 to 100 per cent, depending upon the type of subject-matter and surrounding conditions.[2] The latest and one of the most impressive of the studies of the use of motion pictures in teaching was made by F. D. McClusky, president of the National Academy of Visual Instruction, and was presented at the time of the consolidation of the National Academy of Visual Instruction and the Visual Instruction Department of the National Education Association.

The reason for the psychological power of motion pictures as a

[1] Secretary of Motion Picture Producers and Distributors of America, Inc.

[2] The studies which make this conclusion an established fact have been conducted under the direction of such leaders in educational research as Herbert Blumer, Cyril Burt, W. W. Charters, Frank N. Freeman, C. H. Judd, Sir James Marchant, Mark A. May, C. A. Ruckmick, Charles Spearman, George D. Stoddard, and L. L. Thurstone.

teacher's aid has never been more succinctly stated than by Mr. McClusky when he said:

> In our normal thinking process one never has an isolated idea, the counterpart of the still picture. The stream of thought is continually on the move. It may be that the motion picture secures its educative power from the fact that it is a counterpart of thought.

Mr. McClusky, describing the present status of the pedagogical film, enumerates the following activities among those companies engaged in the production of teaching films:

1. Eastman Teaching Films has a program of 325 pictures, 200 of which have been produced and are in use; 75 are in production; and 50 more are planned for the near future.
2. R.C.A. Photophone is concentrating on experimentation in the realm of higher education, such as "Action of Forces in Space," "Constitution and Transformation of the Elements," "Arrangement of Atoms and Molecules in Crystals," and "Oil Films on Water."
3. Fox Film Corporation has produced 52 pedagogical pictures; 15 additional ones are virtually complete; 200 more are programed, for 67 of which scenarios or continuities have been prepared.
4. Electrical Research Products has produced 60 already; a total of 360 are planned, 20 of which are currently entering production.[3]

Summarizing, as the McClusky report does, the findings of all the previous studies, it is pertinent to list the two sets of recommendations. One group is addressed to educators:

1. Educators must inform the laymen and those on whom they depend for financial support as to the necessity of supplying the equipment for effective visual instruction.
2. The schools must increasingly use the product available—"and the amount of visual material is greater than is generally appreciated"—in order to encourage further production on an elaborate scale.
3. "Natural but mistaken" resistance must be broken down. "Properly used, visual material will repay its cost in the conservation of the teacher's time and energy alone." It "can never supplant the teacher."
4. There should be willing co-operation of educators with those preparing plans for the production of pedagogical pictures.[4]

To the producers, Mr. McClusky recommends:

1. Working out of a "comprehensive philosophy of education" with "cognizance of the respective parts to be played by the teachers, texts, and visual aids in the classroom."
2. Creation of "a systematically organized library of visual material."

[3] *Visual Instruction: Its Value and Its Needs*, pp. 71–77.
[4] *Ibid.*, p. 80.

3. A current-events educational weekly, selected from the most educational sequences in the existing news weeklies.
4. A clearing house for distribution of visual-education aids exclusively.
5. Specialization in particular fields by the various companies interested in the supply of educational films, with subdivisions of activity such as primary, secondary, college, and technical subjects.
6. Consideration of a possible independent, permanent producing organization to restrict its production entirely to pedagogical films.[5]

Before I leave pedagogical pictures for a discussion of the school's use of photoplays shown in theaters, may I draw your attention to one of the most significant results of experiments that have revealed the increased efficiency of teaching supplemented by motion pictures. Beginning with the experiments conducted by Knowlton and Tilton, using the Yale Chronicles of America Photoplays, these and all the subsequent studies with sound pictures have indicated a definite increase in the learning of mentally backward children, of those with low intelligence quotients, as compared with the mentally superior child. Knowlton says, for instance: "The average intelligence test scores of the two groups are compared to show the differences or handicaps which the experimental group overcame, presumably through the use of the photoplay."[6]

I cannot here speculate on the reasons why the presentation of the lesson through a motion picture "gets it over" better with the backward child, interesting as that might be. I do want to relate that fact to the school economies that are a consequence. In a study of school costs per pupil in 35 representative cities of the United States, Electrical Research Products arrived at an average per-capita yearly cost for each child, including all grades, amounting to $112.89.[7] This same study indicates that the amount of individual failures and those who repeat the same grade averages 10 per cent of the total school population. This means that in a city like St. Louis, with a total school population of 92,000 children, the annual cost of "repeaters" is $1,038,588.

If we disregard the greater increase in learning through the use of motion pictures with the children of inferior intelligence, and take a minimum average of 25 per cent increased learning as evidenced by the experiments conducted in schools where motion pictures were used under test conditions, quite conservatively we can assume that one-fourth of all the repetitions of children in a single class could be obviated. That would mean that at St. Louis, for example, an actual saving in the cost of education of a quarter of a million dollars could

[5] *Ibid.*, pp. 81–82.
[6] Knowlton, D. C., and Tilton, J. Warren. *Motion Pictures in History Teaching.*
[7] From an unpublished study by Electrical Research Products, Inc.

be made annually. It would not take long, if this saving were applied to equipping the schools with the necessary projection equipment, to have every classroom in St. Louis modernized with the most efficient teaching tools science has evolved.

Great as is the future of the motion picture as a direct implement in the hands of the teacher, any treatment of the subject is incomplete without consideration of the place of the entertainment picture as a supplement to education. In a recent issue of the *English Journal*, a leading educational magazine, occur the following stimulating editorial paragraphs:

> Should boys and girls in our high schools be taught standards for judging and appreciating theatrical motion pictures, just as they are taught standards for appreciating stage plays, novels, short stories, magazines, and newspapers?
>
> If training in the right use of leisure is a basic personal and social need with reference to which the high-school course in English should be developed, then English teachers should begin to give serious thought to the most democratic art form of our machine age—the movies. A critical attitude toward the movies should be fostered, and the teaching of this attitude should be made a phase of the training of young folks in the right use of leisure. Such a development would be in line with the movement to vitalize and democratize secondary education. Integrating the study of selected motion-picture performances with the development of the work of the English teacher would be a step toward realizing some of the ideals implied in education for a democratic society.[8]

Almost at the same moment this was written, Dr. Guglielmo Ferrero, one of the foremost living historians, was expressing at Rome his opinion that the dramatic war films are a tremendous force in the interest of world peace:

> History was, and today, too, practically is, a glorification of war. Well, "War is Hell," said your General Sherman and its true presentation on the screen makes cinema spectators—talkie audiences—agree with Sherman.
>
> Films may be more than an aid to history. They may very nearly be history itself when methods of permanently storing the cinema records of great events are finally evolved.[9]

At about the same time Editor Shaw, of the *Review of Reviews*, was writing an appreciation of the growing value of talking motion pictures in the inculcation of high standards of spoken English:

> In the years to come they will improve the vocabulary, accent and conversation of millions of listeners. They will react favorably upon the legitimate

[8] *English Journal*, January, 1932.
[9] *Motion Picture Monthly*, March, 1932.

drama. They will influence pulpit methods and political speaking. They will have an international influence in lessening barriers of language.[10]

Earnest effort within the industry for ten years coupled with co-operation on the part of many public-spirited groups outside has resulted in the issuance of two types of pictures which have a high social content and which certainly outrank in this particular any previous form of entertainment. It has not been easy to bring this about. It not only has been necessary for the organized industry to be willing to make these types of pictures, to plan the making of them, and to execute the plans in the face of great difficulties and discouragement, but it has also been necessary consistently to raise the standard of demand.

Out of this effort, by slow and democratic processes, the public, on the one hand, and the industry, on the other, are now in the position where we can make and the public will support two definitely new types of entertainment. One of these I might call the picture of regeneration. It is beautifully exampled by "Broken Lullaby," the great anti-war photoplay directed by Ernest Lubitsch. In this picture the soul of a young man is seared by war. He can find no peace, though war is over. He goes to Germany to see the family of a German boy he had killed in the world conflict, and there in most dramatic fashion he makes restitution as best he can for the death that no argument can remove as a burden from his spirit.

Another great picture of regeneration now on the screen is "The Man Who Played God," splendidly acted by George Arliss. This is the story of a man who is driven to hatred of man and of God, who is in utter despair and on the verge of suicide. God enters into his life, without the protagonist's immediate realization, and the principal character, through doing good for others, wins a spirtual struggle over cruel circumstance and finds faith in God, in man, and in himself. This is entertainment of high inspirational value.

Another type of picture is beginning to succeed after much effort and costly experimentation. This is the picture which presents careful character behavior patterns, the picture in which no regeneration is necessary because the principal character has steadfastly held to the high theory and practice of life. Outstanding among such pictures is "Arrowsmith" based on a novel by the Nobel prize winner, Sinclair Lewis. In "Arrowsmith" the young medical student who is the hero sets forth a behavior pattern of fidelity. He is faithful to a high conception of his profession, and he is faithful to the woman he has married.

[10] Shaw, Albert. "Will Hays: A Ten-Year Record," *Review of Reviews*, LXXV (March, 1932), p. 31.

The teacher is in a position today to choose discriminatingly, on the basis of impartial and sound advice, the motion-picture entertainment of the children under his or her care. At Hollywood and in the studios of the East, the industry has established pre-view facilities, permitting outside groups through volunteer committees to look at the picture product as soon as it is made.

The following organizations now take advantage of these pre-view facilities: American Library Association, Boy Scouts of America, California Congress of Parents and Teachers, Daughters of the American Revolution, Federated Church Brotherhoods of California (Stage and Screen Committee), General Federation of Women's Clubs, International Federation of Catholic Alumnae, Los Angeles Branch of the American Association of University Women, National Council of Jewish Women, National Society of New England Women, and Young Men's Christian Association. Any teacher can secure from one or more of these organizations, without charge, periodical bulletins giving the judgments on current motion pictures before the motion pictures appear in the neighborhood where the instructor lives and teaches.

I commend to you seriously the thought that there is an obligation as well as great opportunity on the part of the educator to help guide the entertainment tastes of the students under his care. The great personal influence of the fine teacher will never be vitiated or impinged upon by any device or any collateral medium, but you can be greatly aided, and you can greatly aid the student, if you will concern yourselves with advising him, pointing the way toward wide use on his part of the increasing leisure which our civilization affords. Perhaps the test of the very fabric of this civilization lies in what use we learn to make of that increasing leisure.

Micro-Projection in Science Education

By GEORG ROEMMERT[11]

THERE IS HARDLY ANY DEPARTMENT OF MODERN EDUCATION which repays society so richly as does education in science. Any neglect of this important field is bound to handicap immeasurably any society now and in the future. Familiarity with one phase of science, as biology, not only gives the individual a harmonious view of the world, but it leads him to a more thorough understanding of the processes and needs of his own body in sickness and in health.

[11] Munich, Germany.

The study of biology is not possible today without entering into the discoveries which the microscope has revealed to us during the last two and a half centuries, the discoveries on which our modern views in the science of living things are based. It is necessary, for instance, that the student become intimately acquainted with the conception of the living cell. He must understand some fundamental characteristics of this smallest living unit, these cells of which plants, animals, and men consist. For this purpose it is especially worth while to examine the great world of the lower plants and animals as we have the opportunity here of explaining many important phenomena of the functions of a cell directly on living cells. How can this be done most vividly and impressively?

For the most part we use pictures and diagrams to explain the essentials of the microcosm to the student. When it is a matter of explaining merely anatomy and morphology, one cannot do without such illustrations, but, on the other hand, on the basis of such illustrations and on the basis of the best explanations, how can a student imagine a protozoön, a single cell, or how imagine the living functions of a cell, such as propagation by division, anabolism, metabolism, or motion? How hard it is, even with the help of illustrations and the best descriptions, to impress the student with the deeper reality of the microcosm.

To attain this goal there is only one possibility; namely, to have the students experience through their own observation the interesting phenomena of the microcosm. There is one process, the micro-projection process, that leads us excellently to our goal, a process that would surely have wider popularity in teaching did there not exist a host of unfounded prejudices against it. By means of it the teacher can arrange specially suited objects under one microscope, can manipulate them himself to keep them in the field of vision, and thus demonstrate objectively on the screen what the pupil can otherwise observe only subjectively in the microscope. All the students at one time are able to see on the white screen what takes place under the one microscope as though through a giant microscope. They all have time enough to follow the objects at leisure. The teacher can point out details, and with the living organisms before the pupils can ask questions to test whether everything is being thoroughly understood. A few examples will show how the micro-projection process may be used in teaching; and how, too, the process may be used in various departments of science, not only in biology, but also in physics and chemistry.

First, if a drop of water from an infusion is put under the microscope, the students see that this drop of water is teeming with many

organisms swimming vigorously to and fro and presenting a confused and chaotic picture. Most of these organisms belong to the so-called unicellular animals, which means that their bodies consist chiefly of that extraordinary substance called protoplasm and one or several nucleuses. Protoplasm and nucleus are the essential components of a cell. These creatures, the body of each of which consists of only one cell, are called Protozoa. Even the inexperienced pupil thus learns to understand what a cell is. A cell is not a little chamber like the cell chamber of a honeycomb, for instance, but the smallest living structure. Now and again dark masses are discovered: these are heaps of fungi and bacteria around which the slipper animalcules are gathered in great numbers because they live on bacteria. Such collections of Protozoa are also to be found around the outer edge of the drop of water. Of course the oxygen is soon used up in a drop of water where there are such innumerable living creatures, so the animalcules go to the edge of the water where there is a richer supply of oxygen diffusing in from the atmosphere.

Now if the teacher changes to a higher magnification, the students are able to observe the Protozoa more closely. The first question which occurs to them is, How do these creatures move? Organs of locomotion in the sense in which they are accustomed to them among the higher animals are not visible. The students see that the cell creates for itself various arrangements to make locomotion possible. In some Protozoa, the whole body is covered with cilia, little hairlike formations, which are arranged approximately on the axis of length of the body and which can be raised slowly and then quickly flattened against the body. Thus with these ciliated Protozoa, movement is brought about by a rowing motion of the cilia. In connection with the clearly visible locomotion by cilia, we might describe other movements also, such as those by flagellae and pseudopodia.

There still remains much of the physiology of the one-celled animalcules to demonstrate, such as the phenomenon of division, so highly characteristic of the cell. With a little careful searching the teacher finds one or another of the Protozoa in the act of division. The students see that the protozoön stretches lengthwise and contracts in the middle, the nucleus in the cell does the same until it finally tears in two parts of equal size, and then the final division of the protoplasm follows; the student sees before him the creation of a new life.

Magnified more powerfully, two glistening, light, round formations, which alternately appear and disappear, are brought to the attention of the students. These are pulsating globules, the so-called contractile vacuoles. Doubtless certain products of catabolism collect

in these vacuoles, and by contraction of the vacuoles such products are forced out of the protoplasm. These devices of the cell are perhaps the analogies of such organs among the many-celled animals as the kidneys, through which waste products of catabolism, poisons which would harm the whole organism, are ejected from the body. At times one can see also the star-shaped canals which lead into these vacuoles.

Through the use of the micro-projection process, the students may come to the most important discovery made through the microscope; namely, every plant and animal body is built up of many small living units. The bodies of plants, animals, and men are all states of cells. As examples of comparatively simply built cells pictures of the bodies of the sponges and also of the coelenterates may be thrown on the screen. The fresh-water polyp is a well-known member of the Coelenterata, the little hydra, native to many of our ponds and ditches. The students may see a polyp grasp its prey with prehensile arms or tentacles; the prey thus grasped then enters through the mouth opening into the extended body where digestion takes place. When the polyp reproduces, it does so mostly by budding; that is, the young polyp simply grows out of the side of the old polyp.

An animal that is further complicated in its structure, the worm, which has a nervous system with ganglia, an intestine, certain excretory organs, and in the higher worms also a blood system, may be pictured. Suppose that the students look first at a planaria. They will notice its smooth gliding, recognize the eye, and sometimes the intestine as well. Many of these animals are completely transparent so that the internal organs cannot only be seen but can be seen functioning. To make the intestine especially visible dye may be put into the water in which the worms are. The worms eat the dye, causing the intestines to assume a reddish color. Students are able to follow easily the movement of the colored organs.

When worms are mentioned one usually thinks of very ugly and disgusting creatures, but there are in our ponds transparent forms of worms of exceedingly delicate and attractive appearance. Most of them form colonies composed of many individuals, often spread like a layer of moss on the surface of stones and plants in the water. They are rather difficult to project as they have a glasslike case into which they retreat at the slightest disturbance, but when they are brought carefully under the microscope they can be seen. One of the most beautiful views under the microscope is a colony of Bryozoa, or moss animalcules. It will certainly surprise the pupils to see under the microscope a drop of vinegar in which are a great many vinegar eels. If the biologist wishes to explain something of diseases caused

by worms, such a preparation will be helpful as most of the pathogene worms belong to the nematodes. These vinegar eels, however, are not harmful in any way.

Insects in their immature stages, for example, the larva of a one-day fly or May fly, may be shown. The students will recognize the tail bristles that characterize this species. These water organisms are well adapted for use in illustrating physiological processes. For instance, the respiration of the May fly may be seen quite clearly. The leaflike attachments in rapid motion on both sides of the body are the respiratory organs.

Every child knows the wonder of the little chicken which emerges from the egg, but unfortunately the process of development itself is hidden. With the use of the micro-projection process, however, the students observe the whole process of development in living objects. For this purpose the eggs of snails make an excellent illustration. In one set of preparations the student may see in the transparent egg the embryo first at the age of about five days; the embryo after fourteen days, in which faint movements are visible; and finally the embryo at twenty days, in which even the little shell is developed and a rotary movement of the young snail within the egg may be noticed.

The micro-projection process may be used in teaching other sciences. In one film a small crystal is brought under the microscope. By heating it, it is dissolved; then by cooling the crystal forms again; and the growing crystal is shown in polarized light, displaying the beautiful phenomena of interference of light in superb color effects. It is a keen aesthetic pleasure to follow a crystal in its growth, and surely the observation of natural phenomena in the microscope worlds becomes in this way an unforgettable experience for the student.

I have tried to show in the brief space at my disposal how the world of the microcosm may be brought before the minds of our students. The science teacher will admit that a large number of phenomena from biology may be presented in this way in a short hour. If he were to attempt to demonstrate all of these phenomena by the use of individual microscopes, it would take months to cover the same ground, and even then he would not be certain that his students had seen these things in just the way he would wish. Micro-projection is an important timesaver in scientific instruction.

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